

Statement of Basis of the Federal Operating Permit

Shell Chemical LP

Site Name: Refinery
Area Name: Chemical Plant
Physical Location: 5900 Highway 225
Nearest City: Deer Park
County: Harris

Permit Number: O1668
Project Type: Minor Revision

Standard Industrial Classification (SIC) Code: 2911
SIC Name: Petroleum Refining

This Statement of Basis sets forth the legal and factual basis for the draft changes to the permit conditions resulting from the minor revision project in accordance with 30 TAC §122.201(a)(4). The applicant has submitted an application for a minor permit revision per §§ 122.215-217. This document may include the following information:

- A description of the facility/area process description;
- A description of the revision project;
- A basis for applying permit shields;
- A list of the federal regulatory applicability determinations;
- A table listing the determination of applicable requirements;
- A list of the New Source Review Requirements;
- The rationale for periodic monitoring methods selected;
- The rationale for compliance assurance methods selected;
- A compliance status; and
- A list of available unit attribute forms.

Prepared on: May 19, 2017

Operating Permit Basis of Determination

Description of Revisions

- Removed units TOL912 & TOL913;
- Incorporated NSR permit revision issuance dates for 3214, 3216, 37206, 21262/PSDTX928, 3219/PSDTX974, and 37206/PSDTX896;
- Incorporated NSR permit renewal dates for 1119, 1120, 3218, 3219, 3985A, 56496, 80525; and
- Removed voided NSR permit 3173.

Permit Area Process Description

Heavy Olefins Production

The Heavy Olefins Unit is comprised of the Crude Isoprene Unit (CIPX), the Isoprene Recovery Unit (IRU), Hydrotreater Units #2 and #3 (HT2 and HT3, respectively) and the Butadiene 3 Unit (BD3). The CIPX is designed to separate and recover isoprene which is fed to the IRU. In the IRU, isoprene and other lighter hydrocarbons are separated from heavier components. The heavier components go to the HT2 or HT3 where separation of the heavier components is accomplished by fractionation to produce gasoline products and aromatics feedstocks. A lighter hydrocarbon stream is fed to an extractive distillation process in the BD3 unit to recover butadiene. The products are then loaded and shipped.

The vents in the Heavy Olefins area are routed to the Olefins flare system (OP2ELFLA, OP3ELFLA, and OP3GRFLA).

Olefins

The olefins production unit consists of two parts, OPII and OPIII. OPIII produces ethylene, propylene, and other products by breaking relatively large feedstock molecules into smaller molecules and then separating and recovering them. The "pyrolysis" section of the plant "cracks" the feedstock using high temperature furnaces, recovers as much of the heat energy as possible, and separates high boiling hydrocarbons from lower boiling hydrocarbons. The "light olefins" section of the plant receives the lower boiling hydrocarbons from the "pyrolysis" section. These "light olefins" are then compressed, cooled through the use of ethylene refrigeration, propylene refrigeration, and expansion (chilling) of methane. They are then separated by distillation into final products including hydrogen, methane, ethane, ethylene, propylene, crude C4s and C5+ gasoline.

OPII operates in a manner similar to the OPIII section described above. It processes and recovers products such as ethylene, ethane, and propylene that would otherwise go to fuel. The feed streams to OPII consist of offgas streams from the DPMC refinery in addition to other refineries. These feed streams are compressed, cooled (ethylene and propylene refrigeration), then separated by distillation. Products include hydrogen, methane, ethane, propylene, and C4+ materials.

Phenol Acetone

The acetone unit produces phenol and acetone which are sold as finished product. The cumene unit in the Phenol Acetone plant combines benzene and propylene in the presence of a catalyst and promoter to form cumene. The cumene is then taken through an oxidation reaction, resulting in the formation of phenol and acetone.

Aromatics

The aromatics production unit has four main processing units. These units are the Aromatics Concentration Unit (ACU), the Ortho-Xylene Unit (OXU), the Benzene Extraction Unit (BEU), and the Solvent Saturation Unit (SSU). In the ACU, raffinate is fractionated to produce solvents. ACU material is then routed to the OXU where it is distilled in a xylene splitter. In the BEU, raffinate is also fractionated to produce solvents. The SSU hydrotreats the raffinates from the ACU and BEU to remove small amounts of solvents.

South Effluent Treater Production

The South Effluent Treater (SET) is designed to provide an effluent of controlled pH, free of oil, suspended solids, and dissolved organic. Waste enters the effluent treaters from various sewer systems and wastewater

passes through bar screens to catch large pieces of debris. The pH is measured and adjusted in the first stage neutralizer. Flow from the neutralizer enters the API basins where light insoluble materials rise to the surface and are skimmed off. Heavy materials sink to the bottom and are removed by sludge collectors. The partly clarified water then flows to the second stage neutralizer which is an underground tank where flows from an organic chloride incinerator are added and mixed. The flow then enters the third stage neutralizer which is an underground tank equipped with a mixer and a pH monitor. Following the fourth stage neutralizer, also an underground tank, the flow then goes to the primary clarifiers.

Suspended solids are removed in the primary clarifiers. Settled solids are removed by a rotating scraper. Solids from the API basins and cat cracker fines are pumped into API basin lift sump. From the lift sump, the solids flow into the primary clarifiers where they settle to the bottom and are removed by the primary solids pumps. Bacteria in the aeration basins utilize the organic matter as food but also use dissolved oxygen from the water. Oxygen required by the bacteria is supplied by the aerators in each basin. Nutrients are added to the water before it enters the basins.

Water containing biosludge flows from the aeration basins to three secondary clarifiers. The biosludge settles to the bottom, is picked up by rotating sludge collectors, and is withdrawn by pumps. The biosludge is wasted and pumped to a biosludge thickener and then fed to three belt filter presses. Most of the water from the sludge drains through the porous belt. Then the sludge passes through two belts where the remaining water is squeezed out. The filter cake then drops to a conveyor and is pumped into trucks which haul the waste offsite.

Distribution Production

There are three main units at the Shell Chemical Deer Park Chemical Plant where loading and unloading operations are performed. These are the West Rack, the Hydrocarbon Solvents Unit and Site-III. There are a total of eight loading racks which load VOC materials with true vapor pressures between 0.5 psia and 11 psia under actual storage conditions. The vent gases from Site-III are routed to a flare and the vent gases from the West Rack are routed to vent condensers.

West Rack:

In the West Rack, the acetone loading is vented to the Oxygenated Solvents Tank Car Vent Scrubber. This scrubber is designed to remove organic vapors from the vent streams collected during loading of IPA, DMK, and MEK at the tank car loading rack. The vent scrubber is a packed bed design with counter-current flow of vent gas and once-through water. Product from the Butyl-Octyl Alcohol area in the Oxy Solvents unit will be loaded into tank trucks at West Rack. BA product has a true vapor pressure less than 0.5 psia and is exempt from 30 TAC Chapter 115 loading control. Similarly, crude TCP from the ECH Finishing Unit is loaded into tank trucks at the West Rack.

Hydrocarbon Solvents Unit:

In the Hydrocarbon Solvents Unit, the products being loaded have vapor pressures of 0.4 psia or lower at loading conditions. TCEQ Best Available Control Technology (BACT) guidelines are applicable for loading of materials with vapor pressures greater than or equal to 0.5 psia, therefore vapor recovery systems are not required.

Site-III:

The tank car loading facilities provide several dedicated loading spots for products handled in Site-III. The car loading spots are equipped with loading hoses for various products transferred from storage vessels in the unit. With the exception of the propylene hose, the loading hoses can be blown into the tank car when loading operations are complete. The vent and load/unload hoses are depressurized to the knock-out pot. During loading operations, all vents are routed to the flare. After loading operations are complete all hoses and bleeders are plugged or capped to reduce emissions.

FOPs at Site

The "application area" consists of the emission units and that portion of the site included in the application and this permit. Multiple FOPs may be issued to a site in accordance with 30 TAC § 122.201(e). When there is

only one area for the site, then the application information and permit will include all units at the site. Additional FOPs that exist at the site, if any, are listed below.

Additional FOPs: O1669

Major Source Pollutants

The table below specifies the pollutants for which the site is a major source:

Major Pollutants	VOC, SO2, PM, NOX, HAPS, CO
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Reading State of Texas's Federal Operating Permit

The Title V Federal Operating Permit (FOP) lists all state and federal air emission regulations and New Source Review (NSR) authorizations (collectively known as “applicable requirements”) that apply at a particular site or permit area (in the event a site has multiple FOPs). **The FOP does not authorize new emissions or new construction activities.** The FOP begins with an introductory page which is common to all Title V permits. This page gives the details of the company, states the authority of the issuing agency, requires the company to operate in accordance with this permit and 30 Texas Administrative Code (TAC) Chapter 122, requires adherence with NSR requirements of 30 TAC Chapter 116, and finally indicates the permit number and the issuance date.

This is followed by the table of contents, which is generally composed of the following elements. Not all permits will have all of the elements.

- General Terms and Conditions
- Special Terms and Conditions
 - Emissions Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting
 - Additional Monitoring Requirements
 - New Source Review Authorization Requirements
 - Compliance Requirements
 - Protection of Stratosphere Ozone
 - Permit Location
 - Permit Shield (30 TAC § 122.148)
- Attachments
 - Applicable Requirements Summary
 - Unit Summary
 - Applicable Requirements Summary
 - Additional Monitoring Requirements
 - Permit Shield
 - New Source Review Authorization References
 - Compliance Plan
 - Alternative Requirements
- Appendix A
 - Acronym list
- Appendix B
 - Copies of major NSR authorizations

General Terms and Conditions

The General Terms and Conditions are the same and appear in all permits. The first paragraph lists the specific citations for 30 TAC Chapter 122 requirements that apply to all Title V permit holders. The second paragraph describes the requirements for record retention. The third paragraph provides details for voiding the permit, if applicable. The fourth paragraph states that the permit holder shall comply with the requirements of 30 TAC Chapter 116 by obtaining a New Source Review authorization prior to new

construction or modification of emission units located in the area covered by this permit. The fifth paragraph provides details on submission of reports required by the permit.

Special Terms and Conditions

Emissions Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting. The TCEQ has designated certain applicable requirements as site-wide requirements. A site-wide requirement is a requirement that applies uniformly to all the units or activities at the site. Units with only site-wide requirements are addressed on Form OP-REQ1 and are not required to be listed separately on a OP-UA Form or Form OP-SUM. Form OP-SUM must list all units addressed in the application and provide identifying information, applicable OP-UA Forms, and preconstruction authorizations. The various OP-UA Forms provide the characteristics of each unit from which applicable requirements are established. Some exceptions exist as a few units may have both site-wide requirements and unit specific requirements.

Other conditions. The other entries under special terms and conditions are in general terms referring to compliance with the more detailed data listed in the attachments.

Attachments

Applicable Requirements Summary. The first attachment, the Applicable Requirements Summary, has two tables, addressing unit specific requirements. The first table, the Unit Summary, includes a list of units with applicable requirements, the unit type, the applicable regulation, and the requirement driver. The intent of the requirement driver is to inform the reader that a given unit may have several different operating scenarios and the differences between those operating scenarios.

The applicable requirements summary table provides the detailed citations of the rules that apply to the various units. For each unit and operating scenario, there is an added modifier called the "index number," detailed citations specifying monitoring and testing requirements, recordkeeping requirements, and reporting requirements. The data for this table are based on data supplied by the applicant on the OP-SUM and various OP-UA forms.

Additional Monitoring Requirement. The next attachment includes additional monitoring the applicant must perform to ensure compliance with the applicable standard. Compliance assurance monitoring (CAM) is often required to provide a reasonable assurance of compliance with applicable emission limitations/standards for large emission units that use control devices to achieve compliance with applicant requirements. When necessary, periodic monitoring (PM) requirements are specified for certain parameters (i.e. feed rates, flow rates, temperature, fuel type and consumption, etc.) to determine if a term and condition or emission unit is operating within specified limits to control emissions. These additional monitoring approaches may be required for two reasons. First, the applicable rules do not adequately specify monitoring requirements (exception- Maximum Achievable Control Technology Standards (MACTs) generally have sufficient monitoring), and second, monitoring may be required to fill gaps in the monitoring requirements of certain applicable requirements. In situations where the NSR permit is the applicable requirement requiring extra monitoring for a specific emission unit, the preferred solution is to have the monitoring requirements in the NSR permit updated so that all NSR requirements are consolidated in the NSR permit.

Permit Shield. A permit may or may not have a permit shield, depending on whether an applicant has applied for, and justified the granting of, a permit shield. A permit shield is a special condition included in the permit document stating that compliance with the conditions of the permit shall be deemed compliance with the specified potentially applicable requirement(s) or specified applicable state-only requirement(s).

New Source Review Authorization References. All activities which are related to emissions in the state of Texas must have a NSR authorization prior to beginning construction. This section lists all units in the permit and the NSR authorization that allowed the unit to be constructed or modified.

The NSR Authorization References Table is a list of all NSR authorizations including PBRs for the permit area as explained under the New Source Review Requirements section of the Statement of Basis. This table is a

catalog of all NSR permits which can be used by the TCEQ, EPA, and the public to reference in a single tabular format.

The NSR Authorization References by Emissions Unit Table is a list of the NSR authorizations for specific emission units. The table also lists a unit description for the emission unit ID numbers in the permit.

While NSR permits are not physically a part of the Title V permit, they are legally incorporated into the Title V permit by reference. Those NSR permits whose emissions exceed certain PSD/NA thresholds must also undergo a Federal review of federally regulated pollutants in addition to review for state regulated pollutants. Compliance Plan. A permit may have a compliance schedule attachment for listing corrective actions plans for any emission unit that is out of compliance with an applicable requirement.

Alternative Requirements. This attachment will list any alternative monitoring plans or alternative means of compliance for applicable requirements that have been approved by the EPA Administrator and/or the TCEQ Executive Director.

Appendix A

Acronym list. This attachment lists the common acronyms used when discussing the FOPs.

Appendix B

Copies of major NSR authorizations applicable to the units covered by this permit have been included in this Appendix, to ensure that all interested persons can access those authorizations.

Stationary vents subject to 30 TAC Chapter 111, Subchapter A, § 111.111(a)(1)(B) addressed in the Special Terms and Conditions

The site contains stationary vents with a flowrate less than 100,000 actual cubic feet per minute (acfm) and constructed after January 31, 1972 which are limited, over a six-minute average, to 20% opacity as required by 30 TAC § 111.111(a)(1)(B). As a site may have a large number of stationary vents that fall into this category, they are not required to be listed individually in the permit's Applicable Requirement Summary. This is consistent with EPA's White Paper for Streamlined Development of Part 70 Permit Applications, July 10, 1995, that states that requirements that apply identically to emission units at a site can be treated on a generic basis such as source-wide opacity limits.

Periodic monitoring is specified in Special Term and Condition 3.A. for stationary vents subject to 30 TAC § 111.111(a)(1)(B) to verify compliance with the 20% opacity limit. These vents are not expected to produce visible emissions during normal operation. The TCEQ evaluated the probability of these sources violating the opacity standards and determined that there is a very low potential that an opacity standard would be exceeded. It was determined that continuous monitoring for these sources is not warranted as there would be very limited environmental benefit in continuously monitoring sources that have a low potential to produce visible emissions. Therefore, the TCEQ set the visible observation monitoring frequency for these sources to once per calendar quarter.

The TCEQ has exempted vents that are not capable of producing visible emissions from periodic monitoring requirements. These vents include sources of colorless VOCs, non-fuming liquids, and other materials that cannot produce emissions that obstruct the transmission of light. Passive ventilation vents, such as plumbing vents, are also included in this category. Since this category of vents are not capable of producing opacity due to the physical or chemical characteristics of the emission source, periodic monitoring is not required as it would not yield any additional data to assure compliance with the 20% opacity standard of 30 TAC § 111.111(a)(1)(B).

In the event that visible emissions are detected, either through the quarterly observation or other credible evidence, such as observations from company personnel, the permit holder shall either report a deviation or perform a Test Method 9 observation to determine the opacity consistent with the 6-minute averaging time specified in 30 TAC § 111.111(a)(1)(B). An additional provision is included to monitor combustion sources

more frequently than quarterly if alternate fuels are burned for periods greater than 24 consecutive hours. This will address possible emissions that may arise when switching fuel types.

Stationary Vents subject to 30 TAC Chapter 111 not addressed in the Special Terms and Conditions

All other stationary vents subject to 30 TAC Chapter 111 not covered in the Special Terms and Conditions are listed in the permit's Applicable Requirement Summary. The basis for the applicability determinations for these vents are listed in the Determination of Applicable Requirements table.

Federal Regulatory Applicability Determinations

The following chart summarizes the applicability of the principal air pollution regulatory programs to the permit area:

Regulatory Program	Applicability (Yes/No)
Prevention of Significant Deterioration (PSD)	Yes
Nonattainment New Source Review (NNSR)	No
Minor NSR	Yes
40 CFR Part 60 - New Source Performance Standards	Yes
40 CFR Part 61 - National Emission Standards for Hazardous Air Pollutants (NESHAPs)	Yes
40 CFR Part 63 - NESHAPs for Source Categories	Yes
Title IV (Acid Rain) of the Clean Air Act (CAA)	No
Title V (Federal Operating Permits) of the CAA	Yes
Title VI (Stratospheric Ozone Protection) of the CAA	Yes
CSAPR (Cross-State Air Pollution Rule)	No

Basis for Applying Permit Shields

An operating permit applicant has the opportunity to specifically request a permit shield to document that specific applicable requirements do not apply to emission units in the permit. A permit shield is a special condition stating that compliance with the conditions of the permit shall be deemed compliance with the specified potentially applicable requirements or specified potentially applicable state-only requirements. A permit shield has been requested in the application for specific emission units. For the permit shield requests that have been approved, the basis of determination for regulations that the owner/operator need not comply with are located in the "Permit Shield" attachment of the permit.

Insignificant Activities

In general, units not meeting the criteria for inclusion on either Form OP-SUM or Form OP-REQ1 are not required to be addressed in the operating permit application. Examples of these types of units include, but are not limited to, the following:

1. Office activities such as photocopying, blueprint copying, and photographic processes.
2. Sanitary sewage collection and treatment facilities other than those used to incinerate wastewater treatment plant sludge. Stacks or vents for sanitary sewer plumbing traps are also included.

3. Food preparation facilities including, but not limited to, restaurants and cafeterias used for preparing food or beverages primarily for consumption on the premises.
4. Outdoor barbecue pits, campfires, and fireplaces.
5. Any air separation or other industrial gas production, storage, or packaging facility. Industrial gases, for purposes of this list, include only oxygen, nitrogen, helium, neon, argon, krypton, and xenon.
6. Storage and handling of sealed portable containers, cylinders, or sealed drums.
7. Vehicle exhaust from maintenance or repair shops.
8. Storage and use of non-VOC products or equipment for maintaining motor vehicles operated at the site (including but not limited to, antifreeze and fuel additives).
9. Air contaminant detectors and recorders, combustion controllers and shut-off devices, product analyzers, laboratory analyzers, continuous emissions monitors, other analyzers and monitors, and emissions associated with sampling activities. Exception to this category includes sampling activities that are deemed fugitive emissions and under a regulatory leak detection and repair program.
10. Bench scale laboratory equipment and laboratory equipment used exclusively for chemical and physical analysis, including but not limited to, assorted vacuum producing devices and laboratory fume hoods.
11. Steam vents, steam leaks, and steam safety relief valves, provided the steam (or boiler feedwater) has not contacted other materials or fluids containing regulated air pollutants other than boiler water treatment chemicals.
12. Storage of water that has not contacted other materials or fluids containing regulated air pollutants other than boiler water treatment chemicals.
13. Fire or emergency response equipment and training, including but not limited to, use of fire control equipment including equipment testing and training, and open burning of materials or fuels associated with firefighting training.
14. Equipment used for inspection of metal products.
15. Instrument systems utilizing air, natural gas, nitrogen, oxygen, carbon dioxide, helium, neon, argon, krypton, and xenon.
16. Battery recharging areas.
17. Brazing, soldering, or welding equipment.

Determination of Applicable Requirements

The tables below include the applicability determinations for the emission units, the index number(s) where applicable, and all relevant unit attribute information used to form the basis of the applicability determination. The unit attribute information is a description of the physical properties of an emission unit which is used to determine the requirements to which the permit holder must comply. For more information about the descriptions of the unit attributes specific Unit Attribute Forms may be viewed at www.tceq.texas.gov/permitting/air/nav/air_all_ua_forms.html.

A list of unit attribute forms is included at the end of this document. Some examples of unit attributes include construction date; product stored in a tank; boiler fuel type; etc.. Generally, multiple attributes are needed to determine the requirements for a given emission unit and index number. The table below lists these attributes in the column entitled "Basis of Determination." Attributes that demonstrate that an applicable requirement applies will be the factual basis for the specific citations in an applicable requirement that apply to a unit for that index number. The TCEQ Air Permits Division has developed flowcharts for determining applicability of state and federal regulations based on the unit attribute information in a Decision Support System (DSS). These flowcharts can be accessed via the internet at www.tceq.texas.gov/permitting/air/nav/air_supportsys.html. The Air Permits Division staff may also be contacted for assistance at (512) 239-1250.

The attributes for each unit and corresponding index number provide the basis for determining the specific legal citations in an applicable requirement that apply, including emission limitations or standards, monitoring, recordkeeping, and reporting. The rules were found to apply or not apply by using the unit attributes as answers to decision questions found in the flowcharts of the DSS. Some additional attributes indicate which legal citations of a rule apply. The legal citations that apply to each emission unit may be found in the Applicable Requirements Summary table of the draft permit. There may be some entries or rows of units and rules not found in the permit, or if the permit contains a permit shield, repeated in the permit shield

area. These are sets of attributes that describe negative applicability, or; in other words, the reason why a potentially applicable requirement does not apply.

If applicability determinations have been made which differ from the available flowcharts, an explanation of the decisions involved in the applicability determination is specified in the column "Changes and Exceptions to RRT." If there were no exceptions to the DSS, then this column has been removed.

The draft permit includes all emission limitations or standards, monitoring, recordkeeping and reporting required by each applicable requirement. If an applicable requirement does not require monitoring, recordkeeping, or reporting, the word "None" will appear in the Applicable Requirements Summary table. If additional periodic monitoring is required for an applicable requirement, it will be explained in detail in the portion of this document entitled "Rationale for Compliance Assurance Monitoring (CAM)/ Periodic Monitoring Methods Selected."

When attributes demonstrate that a unit is not subject to an applicable requirement, the applicant may request a permit shield for those items. The portion of this document entitled "Basis for Applying Permit Shields" specifies which units, if any, have a permit shield.

Operational Flexibility

When an emission unit has multiple operating scenarios, it will have a different index number associated with each operating condition. This means that units are permitted to operate under multiple operating conditions. The applicable requirements for each operating condition are determined by a unique set of unit attributes. For example, a tank may store two different products at different points in time. The tank may, therefore, need to comply with two distinct sets of requirements, depending on the product that is stored. Both sets of requirements are included in the permit, so that the permit holder may store either product in the tank.

Determination of Applicable Requirements

Unit ID	Regulation	Index Number	Basis of Determination*
P87921	30 TAC Chapter 117, Subchapter B	R7ICI-1	Type of Service = Used exclusively in emergency situations [claiming the emergency service exemption under 30 TAC §§ 117.103(a)(6)(D), 117.203(a)(6)(D), 117.303(a)(6)(D) or 117.403(a)(7)(D)] Fuel Fired = Petroleum-based diesel fuel
A327	30 TAC Chapter 115, Storage of VOCs	R5112-1	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Welded tank using an external floating roof True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Primary Seal = Mechanical shoe Product Stored = VOC other than crude oil or condensate Secondary Seal = Secondary seal not determined since 30 TAC §§ 115.117(a)(4) or 115.117(b)(4) exemption is not utilized Storage Capacity = Capacity is greater than 40,000 gallons
A327	40 CFR Part 60, Subpart K	60K-1	Construction/Modification Date = After March 8, 1974 and on or before May 19, 1978 Storage Capacity = Capacity is greater than 65,000 gallons (246,052 liters) Product Stored = Petroleum (other than crude oil) or condensate True Vapor Pressure = True vapor pressure is at least 1.5 psia and less than 11.1 psia Storage Vessel Description = Floating roof (internal or external) Reid Vapor Pressure = Reid vapor pressure not determined
A327	40 CFR Part 60, Subpart K	60K-2	Construction/Modification Date = After March 8, 1974 and on or before May 19, 1978 Storage Capacity = Capacity is greater than 65,000 gallons (246,052 liters) Product Stored = Petroleum liquid (other than petroleum or condensate) True Vapor Pressure = True vapor pressure is at least 1.5 psia and less than 11.1 psia Storage Vessel Description = Floating roof (internal or external) Reid Vapor Pressure = Reid vapor pressure not determined
A328	30 TAC Chapter 115, Storage of VOCs	R5112-1	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Welded tank using an external floating roof True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Primary Seal = Vapor mounted Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
A328	30 TAC Chapter 115, Storage of VOCs	R5112-2	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Welded tank using an external floating roof True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Primary Seal = Mechanical shoe

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AP18	30 TAC Chapter 115, Storage of VOCs	R5112-1	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank using an internal floating roof (IFR) True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
AP18	40 CFR Part 63, Subpart FFFF	63FFFF-1	Emission Standard = HAP vapor pressure is < 76.6 and the unit is complying with 40 CFR Part 63, subpart WW per § 63.2470(a)-Table 4.1.b.i. WW Tank Control = An internal floating roof is operated and maintained per 40 CFR § 63.1062(a)(1). Notification = The referencing subpart does not require notification of initial startup. Seal Configuration = Mechanical shoe seal.
AP19	30 TAC Chapter 115, Storage of VOCs	R5112-1	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Welded tank using an external floating roof True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Primary Seal = Mechanical shoe Product Stored = VOC other than crude oil or condensate Secondary Seal = Secondary seal not determined since 30 TAC §§ 115.117(a)(4) or 115.117(b)(4) exemption is not utilized Storage Capacity = Capacity is greater than 40,000 gallons
AP19	40 CFR Part 60, Subpart Kb	60Kb-1	Product Stored = Petroleum liquid (other than petroleum or condensate) Storage Capacity = Capacity is greater than or equal to 39,900 gallons (151,000 liters)

Unit ID	Regulation	Index Number	Basis of Determination*
			Maximum True Vapor Pressure = True vapor pressure is less than 0.5 psia
AP19	40 CFR Part 63, Subpart YY	63YY	Source Type = Tank is located at an ethylene production facility and meets the size and vapor pressure requirements of Table 7 to be subject to § 63.1103.
AP3	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
D303	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
D303	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
D306	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
D306	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
D307	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
D307	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.

Unit ID	Regulation	Index Number	Basis of Determination*
D308	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
D308	40 CFR Part 63, Subpart G	63G-01	<p>MACT Subpart F/G Applicability = The unit is a Group 2 vessel.</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.</p>
D313	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
D334	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
D341	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
D342	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
D342	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 2 vessel.</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
D342	40 CFR Part 63, Subpart G	63G-2	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
D350	30 TAC Chapter 115, Storage of VOCs	R5112-1	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank using an internal floating roof (IFR) True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
D350	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G). Seal Type = Metallic shoe seal (as defined in 40 CFR § 63.111) NESHAP Subpart Y Applicability = The unit is subject to 40 CFR Part 61, Subpart Y. Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa) Emission Control Type = Internal floating roof
D351	30 TAC Chapter 115, Storage of VOCs	R5112-1	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank using an internal floating roof (IFR) True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
D351	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G). Seal Type = Metallic shoe seal (as defined in 40 CFR § 63.111) NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa) Emission Control Type = Internal floating roof
D352	30 TAC Chapter 115, Storage of VOCs	R5112-1	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank using an internal floating roof (IFR) True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
D352	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G). Seal Type = Metallic shoe seal (as defined in 40 CFR § 63.111) NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.

Unit ID	Regulation	Index Number	Basis of Determination*
			Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa) Emission Control Type = Internal floating roof
D353	30 TAC Chapter 115, Storage of VOCs	R5112-1	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank using an internal floating roof (IFR) True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
D353	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G). Seal Type = Metallic shoe seal (as defined in 40 CFR § 63.111) NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa) Emission Control Type = Internal floating roof
D364	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
D365	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
D366	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
D367	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate

Unit ID	Regulation	Index Number	Basis of Determination*
			Storage Capacity = Capacity is greater than 40,000 gallons
D369	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
D370	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
D370	40 CFR Part 60, Subpart K	60K-1	<p>Construction/Modification Date = After March 8, 1974 and on or before May 19, 1978</p> <p>Storage Capacity = Capacity is greater than 65,000 gallons (246,052 liters)</p> <p>Product Stored = Petroleum liquid (other than petroleum or condensate)</p> <p>True Vapor Pressure = True vapor pressure is at least 1.5 psia and less than 11.1 psia</p> <p>Storage Vessel Description = Floating roof (internal or external)</p> <p>Reid Vapor Pressure = Reid vapor pressure not determined</p>
D370	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Seal Type = Metallic shoe seal (as defined in 40 CFR § 63.111)</p> <p>NESHAP Subpart Y Applicability = The unit is subject to 40 CFR Part 61, Subpart Y.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa)</p> <p>Emission Control Type = Internal floating roof</p>
D371	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
D371	40 CFR Part 60, Subpart K	60K-1	<p>Construction/Modification Date = After March 8, 1974 and on or before May 19, 1978</p> <p>Storage Capacity = Capacity is greater than 65,000 gallons (246,052 liters)</p> <p>Product Stored = Petroleum liquid (other than petroleum or condensate)</p> <p>True Vapor Pressure = True vapor pressure is at least 1.5 psia and less than 11.1 psia</p> <p>Storage Vessel Description = Floating roof (internal or external)</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			Reid Vapor Pressure = Reid vapor pressure not determined
D371	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Seal Type = Metallic shoe seal (as defined in 40 CFR § 63.111)</p> <p>NESHAP Subpart Y Applicability = The unit is subject to 40 CFR Part 61, Subpart Y.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa)</p> <p>Emission Control Type = Internal floating roof</p>
D377	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
D377	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Seal Type = Metallic shoe seal (as defined in 40 CFR § 63.111)</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa)</p> <p>Emission Control Type = Internal floating roof</p>
D379	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
D379	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Seal Type = Liquid-mounted seal (as defined in 40 CFR § 63.111)</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa)</p> <p>Emission Control Type = Internal floating roof</p>
D379	40 CFR Part 63, Subpart G	63G-2	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Seal Type = Metallic shoe seal (as defined in 40 CFR § 63.111)</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa)</p> <p>Emission Control Type = Internal floating roof</p>

Unit ID	Regulation	Index Number	Basis of Determination*
D380	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
D380	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Seal Type = Metallic shoe seal (as defined in 40 CFR § 63.111)</p> <p>NESHAP Subpart Y Applicability = The unit is subject to 40 CFR Part 61, Subpart Y.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa)</p> <p>Emission Control Type = Internal floating roof</p>
D381	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
D381	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Seal Type = Metallic shoe seal (as defined in 40 CFR § 63.111)</p> <p>NESHAP Subpart Y Applicability = The unit is subject to 40 CFR Part 61, Subpart Y.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa)</p> <p>Emission Control Type = Internal floating roof</p>
D393	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
D393	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Seal Type = Metallic shoe seal (as defined in 40 CFR § 63.111)</p> <p>NESHAP Subpart Y Applicability = The unit is subject to 40 CFR Part 61, Subpart Y.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa)</p> <p>Emission Control Type = Internal floating roof</p>
D394	30 TAC Chapter	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance</p>

Unit ID	Regulation	Index Number	Basis of Determination*
	115, Storage of VOCs		with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
D394	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
D395	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
D395	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
D398	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
D398	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
D399	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
D399	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
D400	30 TAC Chapter	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance

Unit ID	Regulation	Index Number	Basis of Determination*
	115, Storage of VOCs		with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
D400	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
D401	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
D401	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
D402	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
D402	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is subject to 40 CFR Part 60, Subpart Kb.
D403	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
D403	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is subject to 40 CFR Part 60, Subpart Kb.
D8100	30 TAC Chapter	R5112-1	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance

Unit ID	Regulation	Index Number	Basis of Determination*
	115, Storage of VOCs		with applicable control requirements or exemption criteria. Tank Description = Tank using an internal floating roof (IFR) True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
D8100	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G). Seal Type = Metallic shoe seal (as defined in 40 CFR § 63.111) NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa) Emission Control Type = Internal floating roof
DIESEL TANK	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank (other than welded) using an external floating roof (EFR) True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons
EX63	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
EX63	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
EX64	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
EX64	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
EX65	30 TAC Chapter 115, Storage of	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.

Unit ID	Regulation	Index Number	Basis of Determination*
	VOCs		<p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
EX65	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 2 vessel.</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.</p>
EX66	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank (other than welded) using an external floating roof (EFR)</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
EX66	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 2 vessel.</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.</p>
EX67	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank (other than welded) using an external floating roof (EFR)</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
EX68	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 25,000 gallons but less than or equal to 40,000 gallons</p>
EX68	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 2 vessel.</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.</p>
EX69	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			Storage Capacity = Capacity is greater than 40,000 gallons
EX69	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
EX70	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons
EX70	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
EX76	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
EX76	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
EX77	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
EX77	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
EX80	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate

Unit ID	Regulation	Index Number	Basis of Determination*
			Storage Capacity = Capacity is greater than 40,000 gallons
EX80	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is subject to 40 CFR Part 60, Subpart Kb.
F310	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank using an internal floating roof (IFR) True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons
F310	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
F336	30 TAC Chapter 115, Storage of VOCs	R5112-1	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank using an internal floating roof (IFR) True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
F337	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
F347	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
F347	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
F349	30 TAC Chapter 115, Storage of	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.

Unit ID	Regulation	Index Number	Basis of Determination*
	VOCs		<p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
F349	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 2 vessel.</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.</p>
F350	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
F350	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 2 vessel.</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.</p>
F351	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
F355	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
F356	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
F357	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
F357	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 2 vessel.</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.</p>
F358	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
F358	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 2 vessel.</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.</p>
F359	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
F359	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Seal Type = Metallic shoe seal (as defined in 40 CFR § 63.111)</p> <p>NESHAP Subpart Y Applicability = The unit is subject to 40 CFR Part 61, Subpart Y.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa)</p> <p>Emission Control Type = Internal floating roof</p>
F360	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
F360	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>Seal Type = Metallic shoe seal (as defined in 40 CFR § 63.111)</p> <p>NESHAP Subpart Y Applicability = The unit is subject to 40 CFR Part 61, Subpart Y.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa)</p> <p>Emission Control Type = Internal floating roof</p>
F361	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
F361	40 CFR Part 60, Subpart K	60K-1	<p>Construction/Modification Date = After March 8, 1974 and on or before May 19, 1978</p> <p>Storage Capacity = Capacity is greater than 65,000 gallons (246,052 liters)</p> <p>Product Stored = Petroleum liquid (other than petroleum or condensate)</p> <p>True Vapor Pressure = True vapor pressure is at least 1.5 psia and less than 11.1 psia</p> <p>Storage Vessel Description = Floating roof (internal or external)</p> <p>Reid Vapor Pressure = Reid vapor pressure not determined</p>
F361	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Seal Type = Metallic shoe seal (as defined in 40 CFR § 63.111)</p> <p>NESHAP Subpart Y Applicability = The unit is subject to 40 CFR Part 61, Subpart Y.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa)</p> <p>Emission Control Type = Internal floating roof</p>
G330	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
G330	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 2 vessel.</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.</p>
G331	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			Storage Capacity = Capacity is greater than 40,000 gallons
G331	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
G343	30 TAC Chapter 115, Storage of VOCs	R5112-1	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Welded tank using an external floating roof True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Primary Seal = Mechanical shoe Product Stored = VOC other than crude oil or condensate Secondary Seal = Rim-mounted Storage Capacity = Capacity is greater than 40,000 gallons
G343	40 CFR Part 60, Subpart K	60K-1	Construction/Modification Date = After March 8, 1974 and on or before May 19, 1978 Storage Capacity = Capacity is greater than 65,000 gallons (246,052 liters) Product Stored = Petroleum liquid (other than petroleum or condensate) True Vapor Pressure = True vapor pressure is at least 1.5 psia and less than 11.1 psia Storage Vessel Description = Floating roof (internal or external) Reid Vapor Pressure = Reid vapor pressure not determined
G343	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
G344	30 TAC Chapter 115, Storage of VOCs	R5112-1	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Welded tank using an external floating roof True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Primary Seal = Mechanical shoe Product Stored = VOC other than crude oil or condensate Secondary Seal = Rim-mounted Storage Capacity = Capacity is greater than 40,000 gallons
G344	40 CFR Part 60, Subpart K	60K-1	Construction/Modification Date = After March 8, 1974 and on or before May 19, 1978 Storage Capacity = Capacity is greater than 65,000 gallons (246,052 liters) Product Stored = Petroleum liquid (other than petroleum or condensate) True Vapor Pressure = True vapor pressure is at least 1.5 psia and less than 11.1 psia Storage Vessel Description = Floating roof (internal or external) Reid Vapor Pressure = Reid vapor pressure not determined

Unit ID	Regulation	Index Number	Basis of Determination*
G344	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
G353	30 TAC Chapter 115, Storage of VOCs	R5112-1	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Welded tank using an external floating roof True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Primary Seal = Mechanical shoe Product Stored = VOC other than crude oil or condensate Secondary Seal = Rim-mounted Storage Capacity = Capacity is greater than 40,000 gallons
G353	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G). Seal Type = Metallic shoe seal (as defined in 40 CFR § 63.111) NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa) Emission Control Type = Internal floating roof
GRPVESSHO	30 TAC Chapter 115, Storage of VOCs	R5112-1	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank using a submerged fill pipe and vapor recovery system True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons Control Device Type = Flare
GRPVESSHO	30 TAC Chapter 115, Storage of VOCs	R5112-2	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank using a submerged fill pipe and vapor recovery system True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons Control Device Type = Flare
GRPVESSHO	30 TAC Chapter 115, Storage of VOCs	R5112-3	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank using a submerged fill pipe and vapor recovery system True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons

Unit ID	Regulation	Index Number	Basis of Determination*
			Control Device Type = Flare
J313	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
J313	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Seal Type = Metallic shoe seal (as defined in 40 CFR § 63.111)</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa)</p> <p>Emission Control Type = Internal floating roof</p>
J314	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
J314	40 CFR Part 63, Subpart FFFF	63FFFF-1	<p>Emission Standard = HAP vapor pressure is < 76.6 and the unit is complying with 40 CFR Part 63, subpart WW per § 63.2470(a)-Table 4.1.b.i.</p> <p>WW Tank Control = An internal floating roof is operated and maintained per 40 CFR § 63.1062(a)(1).</p> <p>Notification = The referencing subpart does not require notification of initial startup.</p> <p>Seal Configuration = Two seals mounted one above the other.</p>
J320	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
K306	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
K307	30 TAC Chapter	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance

Unit ID	Regulation	Index Number	Basis of Determination*
	115, Storage of VOCs		with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
L306	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
L306	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
L308	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
L308	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
L332	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
L332	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
L333	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia

Unit ID	Regulation	Index Number	Basis of Determination*
			Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
L333	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
L334	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
L335	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
L336	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
S332	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank using an internal floating roof (IFR) True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons
S332	40 CFR Part 61, Subpart FF	61FF-1	Waste Treatment Tank = The tank manages, treats or stores a waste stream subject to 40 CFR Part 61, Subpart FF. Alternative Standard for Tanks = The tank is complying with the alternative standards in 40 CFR § 61.351. Kb Tank Type = Using a fixed roof and internal floating roof, that meets the requirements of 40 CFR § 60.112b(a)(1) Seal Type = Mechanical shoe seal
S390	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
S391	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
S392	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
S400	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
T1302	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
T1310	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 25,000 gallons but less than or equal to 40,000 gallons</p>
T13146	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
T1318	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
T1318	40 CFR Part 60, Subpart Kb	60Kb-1	Product Stored = Waste mixture of indeterminate or variable composition Storage Capacity = Capacity is greater than or equal to 39,900 gallons (151,000 liters) Maximum True Vapor Pressure = True vapor pressure is greater than or equal to 0.5 psia but less than 0.75 psia Storage Vessel Description = Emission controls not required (fixed roof)
T1319	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
T1331	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons
T1331	40 CFR Part 60, Subpart Kb	60Kb-1	Product Stored = Waste mixture of indeterminate or variable composition Storage Capacity = Capacity is greater than or equal to 10,600 gallons (40,000 liters) but less than 19,800 gallons (75,000 liters) Maximum True Vapor Pressure = True vapor pressure is less than 2.2 psia
T1332	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons
T1332	40 CFR Part 60, Subpart Kb	60Kb-1	Product Stored = Waste mixture of indeterminate or variable composition Storage Capacity = Capacity is greater than or equal to 10,600 gallons (40,000 liters) but less than 19,800 gallons (75,000 liters)

Unit ID	Regulation	Index Number	Basis of Determination*
			Maximum True Vapor Pressure = True vapor pressure is less than 2.2 psia
T1333	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
T1333	40 CFR Part 60, Subpart Kb	60Kb-1	<p>Product Stored = Waste mixture of indeterminate or variable composition</p> <p>Storage Capacity = Capacity is greater than or equal to 10,600 gallons (40,000 liters) but less than 19,800 gallons (75,000 liters)</p> <p>Maximum True Vapor Pressure = True vapor pressure is less than 2.2 psia</p>
T1334	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
T1334	40 CFR Part 60, Subpart Kb	60Kb-1	<p>Product Stored = Waste mixture of indeterminate or variable composition</p> <p>Storage Capacity = Capacity is greater than or equal to 10,600 gallons (40,000 liters) but less than 19,800 gallons (75,000 liters)</p> <p>Maximum True Vapor Pressure = True vapor pressure is less than 2.2 psia</p>
T182	40 CFR Part 60, Subpart Kb	60Kb-1	<p>Product Stored = Waste mixture of indeterminate or variable composition</p> <p>Storage Capacity = Capacity is greater than or equal to 39,900 gallons (151,000 liters)</p> <p>Maximum True Vapor Pressure = True vapor pressure is greater than or equal to 0.5 psia but less than 0.75 psia</p> <p>Storage Vessel Description = Emission controls not required (fixed roof)</p>
T2800	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
T317	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>

Unit ID	Regulation	Index Number	Basis of Determination*
T331	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
T331	40 CFR Part 60, Subpart Kb	60Kb-1	<p>Product Stored = Petroleum liquid (other than petroleum or condensate)</p> <p>Storage Capacity = Capacity is greater than or equal to 39,900 gallons (151,000 liters)</p> <p>Maximum True Vapor Pressure = True vapor pressure is less than 0.5 psia</p>
T658	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
T74B	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
T74B	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Seal Type = Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the floating roof</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa)</p> <p>Emission Control Type = Internal floating roof</p>
T87000	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using a vapor recovery system (VRS)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p> <p>Control Device Type = Direct-flame incinerator</p>
T87000	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 2 vessel.</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			NSPS Subpart Kb Applicability = The unit is subject to 40 CFR Part 60, Subpart Kb.
T87001	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
T87003	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using a vapor recovery system (VRS)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p> <p>Control Device Type = Direct-flame incinerator</p>
T87004	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
T87005	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Using alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria, and demonstrating substantially equivalent reduction efficiencies approved by the TCEQ executive director.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
T87005	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Closed Vent System = Closed vent system is subject to § 63.172 of Subpart H</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>Bypass Lines = Closed vent system has no by-pass lines.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa)</p> <p>Control Device Type = Thermal incinerator</p> <p>Emission Control Type = Closed vent system (CVS) and control device (fixed roof)</p> <p>Control Device Design = The control device was not installed on or before December 31, 1992 or was not designed to reduce inlet emissions of total organic hazardous air pollutants by greater than or equal to 90% and less than 95%.</p> <p>Design Evaluation Submitted = A design evaluation of the emission control system was submitted to demonstrate compliance</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			with 40 CFR § 63.119(e).
T87007	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
T87007	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Closed Vent System = Closed vent system is subject to § 63.172 of Subpart H</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>Bypass Lines = Closed vent system has no by-pass lines.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa)</p> <p>Control Device Type = Thermal incinerator</p> <p>Emission Control Type = Closed vent system (CVS) and control device (fixed roof)</p> <p>Control Device Design = The control device was not installed on or before December 31, 1992 or was not designed to reduce inlet emissions of total organic hazardous air pollutants by greater than or equal to 90% and less than 95%.</p> <p>Design Evaluation Submitted = A design evaluation of the emission control system was submitted to demonstrate compliance with 40 CFR § 63.119(e).</p>
T87100	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
T87100	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Closed Vent System = Closed vent system is subject to § 63.172 of Subpart H</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>Bypass Lines = Closed vent system has no by-pass lines.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa)</p> <p>Control Device Type = Thermal incinerator</p> <p>Emission Control Type = Closed vent system (CVS) and control device (fixed roof)</p> <p>Control Device Design = The control device was not installed on or before December 31, 1992 or was not designed to reduce inlet emissions of total organic hazardous air pollutants by greater than or equal to 90% and less than 95%.</p> <p>Design Evaluation Submitted = A design evaluation of the emission control system was submitted to demonstrate compliance with 40 CFR § 63.119(e).</p>
T87300	30 TAC Chapter	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance

Unit ID	Regulation	Index Number	Basis of Determination*
	115, Storage of VOCs		with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
T87300	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is subject to 40 CFR Part 60, Subpart Kb.
T87400	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
T87400	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is subject to 40 CFR Part 60, Subpart Kb.
T87401	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
T87401	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is subject to 40 CFR Part 60, Subpart Kb.
T87500	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
T87500	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G). Closed Vent System = Closed vent system is subject to § 63.172 of Subpart H NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>Bypass Lines = Closed vent system has no by-pass lines.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa)</p> <p>Control Device Type = Thermal incinerator</p> <p>Emission Control Type = Closed vent system (CVS) and control device (fixed roof)</p> <p>Control Device Design = The control device was not installed on or before December 31, 1992 or was not designed to reduce inlet emissions of total organic hazardous air pollutants by greater than or equal to 90% and less than 95%.</p> <p>Design Evaluation Submitted = A design evaluation of the emission control system was submitted to demonstrate compliance with 40 CFR § 63.119(e).</p>
TB3-301-R1	30 TAC Chapter 115, Storage of VOCs	R5112-2	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
TB3-301-R1	40 CFR Part 63, Subpart G	63G-2	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Seal Type = Metallic shoe seal (as defined in 40 CFR § 63.111)</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa)</p> <p>Emission Control Type = Internal floating roof</p>
TBD301	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 25,000 gallons but less than or equal to 40,000 gallons</p>
TBD301	40 CFR Part 63, Subpart FFFF	63FFFF-1	<p>Emission Standard = HAP vapor pressure is < 76.6 and the unit is complying with 40 CFR Part 63, subpart WW per § 63.2470(a)-Table 4.1.b.i.</p> <p>WW Tank Control = An internal floating roof is operated and maintained per 40 CFR § 63.1062(a)(1).</p> <p>Notification = The referencing subpart does not require notification of initial startup.</p> <p>Seal Configuration = Two seals mounted one above the other.</p>
TBD910	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>

Unit ID	Regulation	Index Number	Basis of Determination*
TBD910	40 CFR Part 63, Subpart FFFF	63FFFF-1	<p>Emission Standard = HAP vapor pressure is < 76.6 and the unit is complying with 40 CFR Part 63, subpart WW per § 63.2470(a)-Table 4.1.b.i.</p> <p>WW Tank Control = An internal floating roof is operated and maintained per 40 CFR § 63.1062(a)(1).</p> <p>Notification = The referencing subpart does not require notification of initial startup.</p> <p>Seal Configuration = Two seals mounted one above the other.</p>
TBD911	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
TBD911	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Seal Type = Metallic shoe seal (as defined in 40 CFR § 63.111)</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa)</p> <p>Emission Control Type = Internal floating roof</p>
TBD912	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
TBD912	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Seal Type = Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the floating roof</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa)</p> <p>Emission Control Type = Internal floating roof</p>
TBD912	40 CFR Part 63, Subpart G	63G-2	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Seal Type = Metallic shoe seal (as defined in 40 CFR § 63.111)</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa)</p> <p>Emission Control Type = Internal floating roof</p>

Unit ID	Regulation	Index Number	Basis of Determination*
TBD913	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
TBD913	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Seal Type = Metallic shoe seal (as defined in 40 CFR § 63.111)</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa)</p> <p>Emission Control Type = Internal floating roof</p>
TC33001	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
TC33002	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 25,000 gallons but less than or equal to 40,000 gallons</p>
TF34001	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
TOL301	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 25,000 gallons but less than or equal to 40,000 gallons</p>
TOL302	30 TAC Chapter	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance</p>

Unit ID	Regulation	Index Number	Basis of Determination*
	115, Storage of VOCs		<p>with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
TOL303	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
TOL304	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank (other than welded) using an external floating roof (EFR)</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
TOL305	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank (other than welded) using an external floating roof (EFR)</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
TOL3070	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank (other than welded) using an external floating roof (EFR)</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
TOL400	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
TOL401	30 TAC Chapter 115, Storage of	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
	VOCs		<p>Tank Description = Tank (other than welded) using an external floating roof (EFR)</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
TOL901	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Welded tank using an external floating roof</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Primary Seal = Mechanical shoe</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Secondary Seal = Secondary seal not determined since 30 TAC §§ 115.117(a)(4) or 115.117(b)(4) exemption is not utilized</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
TOL901	30 TAC Chapter 115, Storage of VOCs	R5112-2	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Welded tank using an external floating roof</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Primary Seal = Mechanical shoe</p> <p>Product Stored = Crude oil and/or condensate</p> <p>Secondary Seal = Secondary seal not determined since 30 TAC §§ 115.117(a)(4) or 115.117(b)(4) exemption is not utilized</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
TOL901	40 CFR Part 63, Subpart YY	63YY	Source Type = Tank is located at an ethylene production facility and meets the size and vapor pressure requirements of Table 7 to be subject to § 63.1103.
TOL902	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
TOL902	40 CFR Part 63, Subpart YY	63YY	Source Type = Tank is located at an ethylene production facility and meets the size and vapor pressure requirements of Table 7 to be subject to § 63.1103.
TOL903	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
TOL903	40 CFR Part 63,	63YY	Source Type = Tank is located at an ethylene production facility and meets the size and vapor pressure requirements of Table

Unit ID	Regulation	Index Number	Basis of Determination*
	Subpart YY		7 to be subject to § 63.1103.
TOL904	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using an internal floating roof (IFR)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
TOL904	40 CFR Part 61, Subpart FF	61FF-1	<p>Waste Treatment Tank = The tank manages, treats or stores a waste stream subject to 40 CFR Part 61, Subpart FF.</p> <p>Alternative Standard for Tanks = The tank is complying with the alternative standards in 40 CFR § 61.351.</p> <p>Kb Tank Type = Using a fixed roof and internal floating roof, that meets the requirements of 40 CFR § 60.112b(a)(1)</p> <p>Seal Type = Mechanical shoe seal</p> <p>Alternative Means of Compliance = Not using an alternate means of compliance to meet the requirements of 40 CFR § 61.343 for tanks.</p>
TOL904	40 CFR Part 63, Subpart YY	63YY	Source Type = Tank is located at an ethylene production facility and meets the size and vapor pressure requirements of Table 7 to be subject to § 63.1103.
TOL905	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Welded tank using an external floating roof</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Primary Seal = Mechanical shoe</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Secondary Seal = Secondary seal not determined since 30 TAC §§ 115.117(a)(4) or 115.117(b)(4) exemption is not utilized</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
TOL905	40 CFR Part 63, Subpart FFFF	63FFFF-1	<p>Emission Standard = HAP vapor pressure is < 76.6 and the unit is complying with 40 CFR Part 63, subpart WW per § 63.2470(a)-Table 4.1.b.i.</p> <p>WW Tank Control = An external floating roof is operated and maintained per 40 CFR § 63.1062(a)(2).</p> <p>Notification = The referencing subpart does not require notification of initial startup.</p> <p>Seal Configuration = Mechanical shoe primary seal and a secondary seal.</p>
TOL908	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
TOL909	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
TOL910	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
TOL911	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Welded tank using an external floating roof</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Primary Seal = Mechanical shoe</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Secondary Seal = Secondary seal not determined since 30 TAC §§ 115.117(a)(4) or 115.117(b)(4) exemption is not utilized</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
TOL911	30 TAC Chapter 115, Storage of VOCs	R5112-2	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Welded tank using an external floating roof</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Primary Seal = Mechanical shoe</p> <p>Product Stored = Crude oil and/or condensate</p> <p>Secondary Seal = Secondary seal not determined since 30 TAC §§ 115.117(a)(4) or 115.117(b)(4) exemption is not utilized</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
TOL911	40 CFR Part 60, Subpart K	60K-1	<p>Construction/Modification Date = After March 8, 1974 and on or before May 19, 1978</p> <p>Storage Capacity = Capacity is greater than 65,000 gallons (246,052 liters)</p> <p>Product Stored = Petroleum (other than crude oil) or condensate</p> <p>True Vapor Pressure = True vapor pressure is at least 1.5 psia and less than 11.1 psia</p> <p>Storage Vessel Description = Floating roof (internal or external)</p> <p>Reid Vapor Pressure = Reid vapor pressure not determined</p>
TOL911	40 CFR Part 60, Subpart K	60K-2	<p>Construction/Modification Date = After March 8, 1974 and on or before May 19, 1978</p> <p>Storage Capacity = Capacity is greater than 65,000 gallons (246,052 liters)</p> <p>Product Stored = Petroleum liquid (other than petroleum or condensate)</p> <p>True Vapor Pressure = True vapor pressure is at least 1.5 psia and less than 11.1 psia</p> <p>Storage Vessel Description = Floating roof (internal or external)</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			Reid Vapor Pressure = Reid vapor pressure not determined
TOL911	40 CFR Part 63, Subpart YY	63YY	Source Type = Tank is located at an ethylene production facility and meets the size and vapor pressure requirements of Table 7 to be subject to § 63.1103.
TOL914	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Using alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria, and demonstrating substantially equivalent reduction efficiencies approved by the TCEQ executive director. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
TOL914	40 CFR Part 60, Subpart Kb	60Kb-1	Product Stored = Petroleum liquid (other than petroleum or condensate) Storage Capacity = Capacity is greater than or equal to 39,900 gallons (151,000 liters) Maximum True Vapor Pressure = True vapor pressure is less than 0.5 psia
TOL920	30 TAC Chapter 115, Storage of VOCs	R5112-1	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank using an internal floating roof (IFR) True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
TOL920	40 CFR Part 60, Subpart Ka	60Ka-1	Product Stored = Petroleum liquid (other than petroleum or condensate) Storage Capacity = Capacity is greater than 40,000 gallons (151,416 liters) True Vapor Pressure = TVP is less than 1.5 psia Storage Vessel Description = Fixed roof with an internal floating-type cover Reid Vapor Pressure = RVP not determined since 40 CFR § 60.115a(d)(1) exemption is not utilized Maximum True Vapor Pressure = Maximum true vapor pressure is not determined since 40 CFR § 60.115a(d)(1) exemption is not utilized
TOL920	40 CFR Part 63, Subpart YY	63YY	Source Type = Tank is located at an ethylene production facility and meets the size and vapor pressure requirements of Table 7 to be subject to § 63.1103.
TR35020	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank (other than welded) using an external floating roof (EFR) True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons
TU30911	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
TU30913	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
TUT604	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
TUT918	30 TAC Chapter 115, Storage of VOCs	R5112-4	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>
VBD933	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using a submerged fill pipe and vapor recovery system</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p> <p>Control Device Type = Flare</p>
VBD933	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Closed Vent System = Closed vent system is subject to § 63.172 of Subpart H</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>Bypass Lines = Closed vent system has no by-pass lines.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is greater than or equal to 11.11 psi (76.6 kPa)</p> <p>Control Device Type = Flare</p> <p>Emission Control Type = Closed vent system (CVS) and control device (fixed roof)</p>

Unit ID	Regulation	Index Number	Basis of Determination*
VBD990	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using a submerged fill pipe and vapor recovery system</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p> <p>Control Device Type = Flare</p>
VBD990	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Closed Vent System = Closed vent system is subject to § 63.172 of Subpart H</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>Bypass Lines = Closed vent system has no by-pass lines.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is greater than or equal to 11.11 psi (76.6 kPa)</p> <p>Control Device Type = Flare</p> <p>Emission Control Type = Closed vent system (CVS) and control device (fixed roof)</p>
VBD993	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using a submerged fill pipe and vapor recovery system</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p> <p>Control Device Type = Flare</p>
VBD993	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Closed Vent System = Closed vent system is subject to § 63.172 of Subpart H</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>Bypass Lines = Closed vent system has no by-pass lines.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is greater than or equal to 11.11 psi (76.6 kPa)</p> <p>Control Device Type = Flare</p> <p>Emission Control Type = Closed vent system (CVS) and control device (fixed roof)</p>
VBD994	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using a submerged fill pipe and vapor recovery system</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			Control Device Type = Flare
VBD994	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G).</p> <p>Closed Vent System = Closed vent system is subject to § 63.172 of Subpart H</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>Bypass Lines = Closed vent system has no by-pass lines.</p> <p>Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is greater than or equal to 11.11 psi (76.6 kPa)</p> <p>Control Device Type = Flare</p> <p>Emission Control Type = Closed vent system (CVS) and control device (fixed roof)</p>
VC33003	40 CFR Part 63, Subpart YY	63YY	Source Type = Tank is located at an ethylene production facility and meets the size and vapor pressure requirements of Table 7 to be subject to § 63.1103.
VIP901	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using a submerged fill pipe and vapor recovery system</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p> <p>Control Device Type = Flare</p>
VIP902	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using a submerged fill pipe and vapor recovery system</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p> <p>Control Device Type = Flare</p>
VIP904	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using a submerged fill pipe and vapor recovery system</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p> <p>Control Device Type = Flare</p>
VIP905	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using a submerged fill pipe and vapor recovery system</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons Control Device Type = Flare
VOL200	40 CFR Part 63, Subpart YY	63YY	Source Type = Tank is located at an ethylene production facility and meets the size and vapor pressure requirements of Table 7 to be subject to § 63.1103.
VOL201	40 CFR Part 63, Subpart YY	63YY	Source Type = Tank is located at an ethylene production facility and meets the size and vapor pressure requirements of Table 7 to be subject to § 63.1103.
VOL250	40 CFR Part 63, Subpart YY	63YY	Source Type = Tank is located at an ethylene production facility and meets the size and vapor pressure requirements of Table 7 to be subject to § 63.1103.
VOL251	40 CFR Part 63, Subpart YY	63YY	Source Type = Tank is located at an ethylene production facility and meets the size and vapor pressure requirements of Table 7 to be subject to § 63.1103.
VOL300	40 CFR Part 63, Subpart YY	63YY	Source Type = Tank is located at an ethylene production facility and meets the size and vapor pressure requirements of Table 7 to be subject to § 63.1103.
VOL350	40 CFR Part 63, Subpart YY	63YY	Source Type = Tank is located at an ethylene production facility and meets the size and vapor pressure requirements of Table 7 to be subject to § 63.1103.
VP31143	40 CFR Part 63, Subpart YY	63YY	Source Type = Tank is located at an ethylene production facility and meets the size and vapor pressure requirements of Table 7 to be subject to § 63.1103.
VP31144	40 CFR Part 63, Subpart YY	63YY	Source Type = Tank is located at an ethylene production facility and meets the size and vapor pressure requirements of Table 7 to be subject to § 63.1103.
VP31158	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons
X303	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
X303	40 CFR Part 63, Subpart G	63G-1	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
X304	30 TAC Chapter 115, Storage of VOCs	R5112-4	Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank using an internal floating roof (IFR)

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
X304	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 2 vessel.</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.</p>
X308	30 TAC Chapter 115, Storage of VOCs	R5112-1	<p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using a vapor recovery system (VRS)</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p> <p>Control Device Type = Catalytic incinerator</p>
X308	40 CFR Part 63, Subpart G	63G-1	<p>MACT Subpart F/G Applicability = The unit is a Group 2 vessel.</p> <p>NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y.</p> <p>NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.</p>
ACNLOAD	30 TAC Chapter 115, Loading and Unloading of VOC	R5211-1	<p>Chapter 115 Control Device Type = Vapor control system with a flare.</p> <p>Chapter 115 Facility Type = Facility type other than a gasoline terminal, gasoline bulk plant, motor vehicle fuel dispensing facility or marine terminal.</p> <p>Alternate Control Requirement (ACR) = Using the 90% overall control option specified in 30 TAC § 115.213(b).</p> <p>Vapor Tight = All liquid and vapor lines are equipped with fittings which make vapor-tight connections that close automatically when disconnected.</p> <p>Product Transferred = Volatile organic compounds other than liquefied petroleum gas and gasoline.</p> <p>Transfer Type = Loading and unloading.</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 0.5 and less than 11.0 psia, the overall emission controls are at least 90%, and an initial control plan and annual report has been submitted.</p> <p>Daily Throughput = Loading greater than or equal to 20,000 gallons per day.</p>
ACNLOAD	30 TAC Chapter 115, Loading and Unloading of VOC	R5211-2	<p>Chapter 115 Control Device Type = Vapor control system with a flare.</p> <p>Chapter 115 Facility Type = Facility type other than a gasoline terminal, gasoline bulk plant, motor vehicle fuel dispensing facility or marine terminal.</p> <p>Alternate Control Requirement (ACR) = Using the 90% overall control option specified in 30 TAC § 115.213(b).</p> <p>Vapor Tight = All liquid and vapor lines are equipped with fittings which make vapor-tight connections that close automatically when disconnected.</p> <p>Product Transferred = Volatile organic compounds other than liquefied petroleum gas and gasoline.</p> <p>Transfer Type = Loading and unloading.</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 0.5 and less than 11.0 psia, the overall emission controls are at least 90%, and an initial control plan and annual report has been submitted.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			Daily Throughput = Loading greater than or equal to 20,000 gallons per day.
ACNLOAD	30 TAC Chapter 115, Loading and Unloading of VOC	R5211-3	<p>Chapter 115 Control Device Type = Vapor control system with a flare.</p> <p>Chapter 115 Facility Type = Facility type other than a gasoline terminal, gasoline bulk plant, motor vehicle fuel dispensing facility or marine terminal.</p> <p>Alternate Control Requirement (ACR) = Using the 90% overall control option specified in 30 TAC § 115.213(b).</p> <p>Vapor Tight = All liquid and vapor lines are equipped with fittings which make vapor-tight connections that close automatically when disconnected.</p> <p>Product Transferred = Volatile organic compounds other than liquefied petroleum gas and gasoline.</p> <p>Transfer Type = Loading and unloading.</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 0.5 and less than 11.0 psia, the overall emission controls are at least 90%, and an initial control plan and annual report has been submitted.</p> <p>Daily Throughput = Loading greater than or equal to 20,000 gallons per day.</p>
RCLOAD	30 TAC Chapter 115, Loading and Unloading of VOC	R5211-1	<p>Chapter 115 Facility Type = Facility type other than a gasoline terminal, gasoline bulk plant, motor vehicle fuel dispensing facility or marine terminal.</p> <p>Alternate Control Requirement (ACR) = No alternate control requirements are being utilized.</p> <p>Product Transferred = Volatile organic compounds other than liquefied petroleum gas and gasoline.</p> <p>Transfer Type = Loading and unloading.</p> <p>True Vapor Pressure = True vapor pressure less than 0.5 psia.</p>
RCLOAD	40 CFR Part 63, Subpart G	63G-1	<p>Transfer Rack Type = Group 2 transfer rack (as defined in 40 CFR § 63.111).</p> <p>Subject to Subpart BB = The transfer rack is not subject to 40 CFR Part 61, Subpart BB.</p>
SCRWRTC	30 TAC Chapter 115, Loading and Unloading of VOC	R5211-1	<p>Chapter 115 Control Device Type = Control device other than a flare, vapor combustor, catalytic incinerator, direct flame incinerator, chiller, or carbon adsorption system.</p> <p>Chapter 115 Facility Type = Facility type other than a gasoline terminal, gasoline bulk plant, motor vehicle fuel dispensing facility or marine terminal.</p> <p>Alternate Control Requirement (ACR) = No alternate control requirements are being utilized.</p> <p>Vapor Tight = Not all liquid and vapor lines are equipped with fittings which make vapor-tight connections that close automatically when disconnected.</p> <p>Product Transferred = Volatile organic compounds other than liquefied petroleum gas and gasoline.</p> <p>Transfer Type = Only loading.</p> <p>True Vapor Pressure = True vapor pressure greater than or equal to 0.5 psia.</p> <p>Daily Throughput = Loading greater than or equal to 20,000 gallons per day.</p> <p>Control Options = Vapor control system that maintains a control efficiency of at least 90%.</p>
SCRWRTC	40 CFR Part 63, Subpart G	63G-1	<p>Transfer Rack Type = Group 2 transfer rack (as defined in 40 CFR § 63.111).</p> <p>Subject to Subpart BB = The transfer rack is not subject to 40 CFR Part 61, Subpart BB.</p>
SITE3TC	30 TAC Chapter 115, Loading and Unloading of VOC	R5211-1	<p>Chapter 115 Control Device Type = No control device.</p> <p>Chapter 115 Facility Type = Facility type other than a gasoline terminal, gasoline bulk plant, motor vehicle fuel dispensing facility or marine terminal.</p> <p>Alternate Control Requirement (ACR) = Using the 90% overall control option specified in 30 TAC § 115.213(b).</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>Vapor Tight = All liquid and vapor lines are equipped with fittings which make vapor-tight connections that close automatically when disconnected.</p> <p>Product Transferred = Volatile organic compounds other than liquefied petroleum gas and gasoline.</p> <p>Transfer Type = Loading and unloading.</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 0.5 and less than 11.0 psia, the overall emission controls are at least 90%, and an initial control plan and annual report has been submitted.</p> <p>Daily Throughput = Loading greater than or equal to 20,000 gallons per day.</p> <p>Control Options = Vapor control system that maintains a control efficiency of at least 90%.</p>
SITE3TT	30 TAC Chapter 115, Loading and Unloading of VOC	R5211-1	<p>Chapter 115 Control Device Type = No control device.</p> <p>Chapter 115 Facility Type = Facility type other than a gasoline terminal, gasoline bulk plant, motor vehicle fuel dispensing facility or marine terminal.</p> <p>Alternate Control Requirement (ACR) = Using the 90% overall control option specified in 30 TAC § 115.213(b).</p> <p>Vapor Tight = All liquid and vapor lines are equipped with fittings which make vapor-tight connections that close automatically when disconnected.</p> <p>Product Transferred = Volatile organic compounds other than liquefied petroleum gas and gasoline.</p> <p>Transfer Type = Loading and unloading.</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 0.5 and less than 11.0 psia, the overall emission controls are at least 90%, and an initial control plan and annual report has been submitted.</p> <p>Daily Throughput = Loading greater than or equal to 20,000 gallons per day.</p> <p>Control Options = Vapor control system that maintains a control efficiency of at least 90%.</p>
TTLOAD	30 TAC Chapter 115, Loading and Unloading of VOC	R5211-1	<p>Chapter 115 Facility Type = Facility type other than a gasoline terminal, gasoline bulk plant, motor vehicle fuel dispensing facility or marine terminal.</p> <p>Alternate Control Requirement (ACR) = No alternate control requirements are being utilized.</p> <p>Product Transferred = Volatile organic compounds other than liquefied petroleum gas and gasoline.</p> <p>Transfer Type = Loading and unloading.</p> <p>True Vapor Pressure = True vapor pressure less than 0.5 psia.</p>
TTLOAD	40 CFR Part 63, Subpart G	63G-1	<p>Transfer Rack Type = Group 2 transfer rack (as defined in 40 CFR § 63.111).</p> <p>Subject to Subpart BB = The transfer rack is not subject to 40 CFR Part 61, Subpart BB.</p>
WRTC	30 TAC Chapter 115, Loading and Unloading of VOC	R5211-1	<p>Chapter 115 Facility Type = Facility type other than a gasoline terminal, gasoline bulk plant, motor vehicle fuel dispensing facility or marine terminal.</p> <p>Alternate Control Requirement (ACR) = No alternate control requirements are being utilized.</p> <p>Product Transferred = Volatile organic compounds other than liquefied petroleum gas and gasoline.</p> <p>Transfer Type = Loading and unloading.</p> <p>True Vapor Pressure = True vapor pressure less than 0.5 psia.</p>
WRTCECH	30 TAC Chapter 115, Loading and Unloading of VOC	R5211-1	<p>Chapter 115 Facility Type = Facility type other than a gasoline terminal, gasoline bulk plant, motor vehicle fuel dispensing facility or marine terminal.</p> <p>Alternate Control Requirement (ACR) = No alternate control requirements are being utilized.</p> <p>Product Transferred = Volatile organic compounds other than liquefied petroleum gas and gasoline.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>Transfer Type = Loading and unloading.</p> <p>True Vapor Pressure = True vapor pressure less than 0.5 psia.</p>
WRTCMEK	30 TAC Chapter 115, Loading and Unloading of VOC	R5211-1	<p>Chapter 115 Control Device Type = Control device other than a flare, vapor combustor, catalytic incinerator, direct flame incinerator, chiller, or carbon adsorption system.</p> <p>Chapter 115 Facility Type = Facility type other than a gasoline terminal, gasoline bulk plant, motor vehicle fuel dispensing facility or marine terminal.</p> <p>Alternate Control Requirement (ACR) = Using the 90% overall control option specified in 30 TAC § 115.213(b).</p> <p>Vapor Tight = All liquid and vapor lines are equipped with fittings which make vapor-tight connections that close automatically when disconnected.</p> <p>Product Transferred = Volatile organic compounds other than liquefied petroleum gas and gasoline.</p> <p>Transfer Type = Loading and unloading.</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 0.5 and less than 11.0 psia, the overall emission controls are at least 90%, and an initial control plan and annual report has been submitted.</p> <p>Daily Throughput = Loading greater than or equal to 20,000 gallons per day.</p> <p>Control Options = Vapor control system that maintains a control efficiency of at least 90%.</p>
WRTT	30 TAC Chapter 115, Loading and Unloading of VOC	R5211-1	<p>Chapter 115 Facility Type = Facility type other than a gasoline terminal, gasoline bulk plant, motor vehicle fuel dispensing facility or marine terminal.</p> <p>Alternate Control Requirement (ACR) = No alternate control requirements are being utilized.</p> <p>Product Transferred = Volatile organic compounds other than liquefied petroleum gas and gasoline.</p> <p>Transfer Type = Loading and unloading.</p> <p>True Vapor Pressure = True vapor pressure less than 0.5 psia.</p>
WRTTECH	30 TAC Chapter 115, Loading and Unloading of VOC	R5211-1	<p>Chapter 115 Facility Type = Facility type other than a gasoline terminal, gasoline bulk plant, motor vehicle fuel dispensing facility or marine terminal.</p> <p>Alternate Control Requirement (ACR) = No alternate control requirements are being utilized.</p> <p>Product Transferred = Volatile organic compounds other than liquefied petroleum gas and gasoline.</p> <p>Transfer Type = Loading and unloading.</p> <p>True Vapor Pressure = True vapor pressure less than 0.5 psia.</p>
WRTTMEK	30 TAC Chapter 115, Loading and Unloading of VOC	R5211-1	<p>Chapter 115 Control Device Type = Control device other than a flare, vapor combustor, catalytic incinerator, direct flame incinerator, chiller, or carbon adsorption system.</p> <p>Chapter 115 Facility Type = Facility type other than a gasoline terminal, gasoline bulk plant, motor vehicle fuel dispensing facility or marine terminal.</p> <p>Alternate Control Requirement (ACR) = Using the 90% overall control option specified in 30 TAC § 115.213(b).</p> <p>Vapor Tight = All liquid and vapor lines are equipped with fittings which make vapor-tight connections that close automatically when disconnected.</p> <p>Product Transferred = Volatile organic compounds other than liquefied petroleum gas and gasoline.</p> <p>Transfer Type = Loading and unloading.</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 0.5 and less than 11.0 psia, the overall emission controls are at least 90%, and an initial control plan and annual report has been submitted.</p> <p>Daily Throughput = Loading greater than or equal to 20,000 gallons per day.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			Control Options = Vapor control system that maintains a control efficiency of at least 90%.
F8300	30 TAC Chapter 117, Subchapter B	R7201-1	<p>Diluent CEMS = The process heater does not use a carbon dioxide CEMS to monitor diluent.</p> <p>Fuel Flow Monitoring = Fuel flow is monitored with a totalizing fuel flow meter per 30 TAC §§ 117.140(a), 117.340(a) or 117.440(a).</p> <p>Unit Type = Process heater</p> <p>CO Emission Limitation = Title 30 TAC § 117.310(c)(1) 400 ppmv option</p> <p>Maximum Rated Capacity = Maximum rated capacity is at least 2 MMBtu/hr, but less than 40 MMBtu/hr.</p> <p>CO Monitoring System = Emissions are monitored using methods other than CEMS or PEMS.</p> <p>NOx Emission Limit Basis = Emission limit basis is not a 30 day rolling average or a block one-hour average</p> <p>NOx Reduction = No NO_x control method</p> <p>Fuel Type #1 = Gaseous fuel other than natural gas, landfill gas, or renewable non-fossil fuel gases.</p> <p>NOx Monitoring System = Maximum emission rate testing [in accordance with 30 TAC § 117.8000]</p> <p>NOx Emission Limitation = Title 30 TAC §§ 117.310(d)(3) and 117.310(a)(8)</p>
F8300	40 CFR Part 63, Subpart DDDDD	63DDDDDD	CONSTRUCTION/RECONSTRUCTION DATE = Construction or reconstruction began on or before June 4, 2010.
F8301	30 TAC Chapter 117, Subchapter B	R7201-1	<p>Diluent CEMS = The process heater does not use a carbon dioxide CEMS to monitor diluent.</p> <p>Fuel Flow Monitoring = Fuel flow is monitored with a totalizing fuel flow meter per 30 TAC §§ 117.140(a), 117.340(a) or 117.440(a).</p> <p>Unit Type = Process heater</p> <p>CO Emission Limitation = Title 30 TAC § 117.310(c)(1) 400 ppmv option</p> <p>Maximum Rated Capacity = Maximum rated capacity is at least 2 MMBtu/hr, but less than 40 MMBtu/hr.</p> <p>CO Monitoring System = Emissions are monitored using methods other than CEMS or PEMS.</p> <p>NOx Emission Limit Basis = Emission limit basis is not a 30 day rolling average or a block one-hour average</p> <p>NOx Reduction = No NO_x control method</p> <p>Fuel Type #1 = Gaseous fuel other than natural gas, landfill gas, or renewable non-fossil fuel gases.</p> <p>NOx Monitoring System = Maximum emission rate testing [in accordance with 30 TAC § 117.8000]</p> <p>NOx Emission Limitation = Title 30 TAC §§ 117.310(d)(3) and 117.310(a)(8)</p>
F8301	40 CFR Part 63, Subpart DDDDD	63DDDDDD	CONSTRUCTION/RECONSTRUCTION DATE = Construction or reconstruction began on or before June 4, 2010.
FH3601	30 TAC Chapter 117, Subchapter B	R7ICI-01	<p>Diluent CEMS = The process heater does not use a carbon dioxide CEMS to monitor diluent.</p> <p>Fuel Flow Monitoring = Fuel flow is monitored with a totalizing fuel flow meter per 30 TAC §§ 117.140(a), 117.340(a) or 117.440(a).</p> <p>Unit Type = Process heater</p> <p>CO Emission Limitation = Title 30 TAC § 117.310(c)(1) 400 ppmv option</p> <p>Maximum Rated Capacity = Maximum rated capacity is at least 2 MMBtu/hr, but less than 40 MMBtu/hr.</p> <p>CO Monitoring System = Emissions are monitored using methods other than CEMS or PEMS.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>NOx Emission Limit Basis = Emission limit basis is not a 30 day rolling average or a block one-hour average</p> <p>NOx Reduction = No NO_x control method</p> <p>Fuel Type #1 = Gaseous fuel other than natural gas, landfill gas, or renewable non-fossil fuel gases.</p> <p>NOx Monitoring System = Maximum emission rate testing [in accordance with 30 TAC § 117.8000]</p> <p>NOx Emission Limitation = Title 30 TAC §§ 117.310(d)(3) and 117.310(a)(8)</p>
FH3601	40 CFR Part 63, Subpart DDDDD	63DDDDDD	CONSTRUCTION/RECONSTRUCTION DATE = Construction or reconstruction began on or before June 4, 2010.
FOL601	30 TAC Chapter 117, Subchapter B	R7ICI-01	<p>Diluent CEMS = The process heater does not use a carbon dioxide CEMS to monitor diluent.</p> <p>Fuel Flow Monitoring = Fuel flow is monitored with a totalizing fuel flow meter per 30 TAC §§ 117.140(a), 117.340(a) or 117.440(a).</p> <p>Unit Type = Process heater</p> <p>CO Emission Limitation = Title 30 TAC § 117.310(c)(1) 400 ppmv option</p> <p>Maximum Rated Capacity = Maximum rated capacity is at least 2 MMBtu/hr, but less than 40 MMBtu/hr.</p> <p>CO Monitoring System = Emissions are monitored using methods other than CEMS or PEMS.</p> <p>NOx Emission Limit Basis = Emission limit basis is not a 30 day rolling average or a block one-hour average</p> <p>NOx Reduction = No NO_x control method</p> <p>Fuel Type #1 = Gaseous fuel other than natural gas, landfill gas, or renewable non-fossil fuel gases.</p> <p>NOx Monitoring System = Maximum emission rate testing [in accordance with 30 TAC § 117.8000]</p> <p>NOx Emission Limitation = Title 30 TAC §§ 117.310(d)(3) and 117.310(a)(8)</p>
FOL601	40 CFR Part 63, Subpart DDDDD	63DDDDDD	CONSTRUCTION/RECONSTRUCTION DATE = Construction or reconstruction began on or before June 4, 2010.
FOL602	30 TAC Chapter 117, Subchapter B	R7ICI-01	<p>Diluent CEMS = The process heater does not use a carbon dioxide CEMS to monitor diluent.</p> <p>Fuel Flow Monitoring = Fuel flow is monitored with a totalizing fuel flow meter per 30 TAC §§ 117.140(a), 117.340(a) or 117.440(a).</p> <p>Unit Type = Process heater</p> <p>CO Emission Limitation = Title 30 TAC § 117.310(c)(1) 400 ppmv option</p> <p>Maximum Rated Capacity = Maximum rated capacity is at least 2 MMBtu/hr, but less than 40 MMBtu/hr.</p> <p>CO Monitoring System = Emissions are monitored using methods other than CEMS or PEMS.</p> <p>NOx Emission Limit Basis = Emission limit basis is not a 30 day rolling average or a block one-hour average</p> <p>NOx Reduction = No NO_x control method</p> <p>Fuel Type #1 = Gaseous fuel other than natural gas, landfill gas, or renewable non-fossil fuel gases.</p> <p>NOx Monitoring System = Maximum emission rate testing [in accordance with 30 TAC § 117.8000]</p> <p>NOx Emission Limitation = Title 30 TAC §§ 117.310(d)(3) and 117.310(a)(8)</p>
FOL602	40 CFR Part 63, Subpart DDDDD	63DDDDDD	CONSTRUCTION/RECONSTRUCTION DATE = Construction or reconstruction began on or before June 4, 2010.
FOL603	30 TAC Chapter 117, Subchapter	R7ICI-01	<p>Diluent CEMS = The process heater does not use a carbon dioxide CEMS to monitor diluent.</p> <p>Fuel Flow Monitoring = Fuel flow is monitored with a totalizing fuel flow meter per 30 TAC §§ 117.140(a), 117.340(a) or</p>

Unit ID	Regulation	Index Number	Basis of Determination*
	B		<p>117.440(a).</p> <p>Unit Type = Process heater</p> <p>CO Emission Limitation = Title 30 TAC § 117.310(c)(1) 400 ppmv option</p> <p>Maximum Rated Capacity = Maximum rated capacity is at least 2 MMBtu/hr, but less than 40 MMBtu/hr.</p> <p>CO Monitoring System = Emissions are monitored using methods other than CEMS or PEMS.</p> <p>NOx Emission Limit Basis = Emission limit basis is not a 30 day rolling average or a block one-hour average</p> <p>NOx Reduction = No NO_x control method</p> <p>Fuel Type #1 = Gaseous fuel other than natural gas, landfill gas, or renewable non-fossil fuel gases.</p> <p>NOx Monitoring System = Maximum emission rate testing [in accordance with 30 TAC § 117.8000]</p> <p>NOx Emission Limitation = Title 30 TAC §§ 117.310(d)(3) and 117.310(a)(8)</p>
FOL603	40 CFR Part 63, Subpart DDDDD	63DDDDD	CONSTRUCTION/RECONSTRUCTION DATE = Construction or reconstruction began on or before June 4, 2010.
FOL604	30 TAC Chapter 117, Subchapter B	R7ICI-01	<p>Diluent CEMS = The process heater does not use a carbon dioxide CEMS to monitor diluent.</p> <p>Fuel Flow Monitoring = Fuel flow is monitored with a totalizing fuel flow meter per 30 TAC §§ 117.140(a), 117.340(a) or 117.440(a).</p> <p>Unit Type = Process heater</p> <p>CO Emission Limitation = Title 30 TAC § 117.310(c)(1) 400 ppmv option</p> <p>Maximum Rated Capacity = Maximum rated capacity is at least 2 MMBtu/hr, but less than 40 MMBtu/hr.</p> <p>CO Monitoring System = Emissions are monitored using methods other than CEMS or PEMS.</p> <p>NOx Emission Limit Basis = Emission limit basis is not a 30 day rolling average or a block one-hour average</p> <p>NOx Reduction = No NO_x control method</p> <p>Fuel Type #1 = Gaseous fuel other than natural gas, landfill gas, or renewable non-fossil fuel gases.</p> <p>NOx Monitoring System = Maximum emission rate testing [in accordance with 30 TAC § 117.8000]</p> <p>NOx Emission Limitation = Title 30 TAC §§ 117.310(d)(3) and 117.310(a)(8)</p>
FOL604	40 CFR Part 63, Subpart DDDDD	63DDDDD	CONSTRUCTION/RECONSTRUCTION DATE = Construction or reconstruction began on or before June 4, 2010.
FP31180	30 TAC Chapter 117, Subchapter B	R7ICI-1	<p>Diluent CEMS = The process heater does not use a carbon dioxide CEMS to monitor diluent.</p> <p>Fuel Flow Monitoring = Unit vents to a common stack with a NO_x and diluent CEMS and utilizes a single totalizing fuel flow meter per 30 TAC §§ 117.140(a)(2)(B), 117.340(a)(2)(B) or 117.440(a)(2)(B).</p> <p>Unit Type = Process heater</p> <p>CO Emission Limitation = Title 30 TAC § 117.310(c)(1) 400 ppmv option</p> <p>Maximum Rated Capacity = Maximum rated capacity is at least 200 MMBtu/hr.</p> <p>CO Monitoring System = Continuous emission monitoring system complying with 30 TAC § 117.8100(a)(1).</p> <p>NOx Emission Limit Basis = Emission limit basis is not a 30 day rolling average or a block one-hour average</p> <p>NOx Reduction = No NO_x control method</p> <p>Fuel Type #1 = Gaseous fuel other than natural gas, landfill gas, or renewable non-fossil fuel gases.</p> <p>NOx Monitoring System = Continuous emissions monitoring system</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			Annual Heat Input = Annual heat input is greater than 2.2(10 ¹¹) Btu/yr, based on a rolling 12-month average. NOx Emission Limitation = Title 30 TAC §§ 117.310(d)(3) and 117.310(a)(8)
GRPFURN1	30 TAC Chapter 117, Subchapter B	R7ICI-1	Diluent CEMS = The process heater does not use a carbon dioxide CEMS to monitor diluent. Fuel Flow Monitoring = Unit vents to a common stack with a NO _x and diluent CEMS and utilizes a single totalizing fuel flow meter per 30 TAC §§ 117.140(a)(2)(B), 117.340(a)(2)(B) or 117.440(a)(2)(B). Unit Type = Process heater CO Emission Limitation = Title 30 TAC § 117.310(c)(1) 400 ppmv option Maximum Rated Capacity = Maximum rated capacity is at least 100 MMBtu/hr, but less than 200 MMBtu/hr. CO Monitoring System = Continuous emission monitoring system complying with 30 TAC § 117.8100(a)(1). NOx Emission Limit Basis = Emission limit basis is not a 30 day rolling average or a block one-hour average NOx Reduction = No NO _x control method Fuel Type #1 = Gaseous fuel other than natural gas, landfill gas, or renewable non-fossil fuel gases. NOx Monitoring System = Continuous emissions monitoring system Annual Heat Input = Annual heat input is greater than 2.2(10 ¹¹) Btu/yr, based on a rolling 12-month average. NOx Emission Limitation = Title 30 TAC §§ 117.310(d)(3) and 117.310(a)(8)
GRPFURN2	30 TAC Chapter 112, Sulfur Compounds	REG2-1	Effective Stack Height = The effective stack height is equal to or greater than the standard effective stack height.
GRPFURN2	30 TAC Chapter 117, Subchapter B	R7ICI-1	Diluent CEMS = The process heater does not use a carbon dioxide CEMS to monitor diluent. Fuel Flow Monitoring = Unit vents to a common stack with a NO _x and diluent CEMS and utilizes a single totalizing fuel flow meter per 30 TAC §§ 117.140(a)(2)(B), 117.340(a)(2)(B) or 117.440(a)(2)(B). Unit Type = Process heater CO Emission Limitation = Title 30 TAC § 117.310(c)(1) 400 ppmv option Maximum Rated Capacity = Maximum rated capacity is at least 200 MMBtu/hr. CO Monitoring System = Continuous emission monitoring system complying with 30 TAC § 117.8100(a)(1). NOx Emission Limit Basis = Emission limit basis is not a 30 day rolling average or a block one-hour average NOx Reduction = Water or steam injection Fuel Type #1 = Gaseous fuel other than natural gas, landfill gas, or renewable non-fossil fuel gases. NOx Monitoring System = Continuous emissions monitoring system Annual Heat Input = Annual heat input is greater than 2.2(10 ¹¹) Btu/yr, based on a rolling 12-month average. NOx Emission Limitation = Title 30 TAC §§ 117.310(d)(3) and 117.310(a)(8)
GRPFURN3	30 TAC Chapter 117, Subchapter B	R7ICI-1	Diluent CEMS = The process heater does not use a carbon dioxide CEMS to monitor diluent. Fuel Flow Monitoring = Unit vents to a common stack with a NO _x and diluent CEMS and utilizes a single totalizing fuel flow meter per 30 TAC §§ 117.140(a)(2)(B), 117.340(a)(2)(B) or 117.440(a)(2)(B). Unit Type = Process heater CO Emission Limitation = Title 30 TAC § 117.310(c)(1) 400 ppmv option Maximum Rated Capacity = Maximum rated capacity is at least 100 MMBtu/hr, but less than 200 MMBtu/hr.

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>CO Monitoring System = Continuous emission monitoring system complying with 30 TAC § 117.8100(a)(1).</p> <p>NOx Emission Limit Basis = Emission limit basis is not a 30 day rolling average or a block one-hour average</p> <p>NOx Reduction = No NO_x control method</p> <p>Fuel Type #1 = Gaseous fuel other than natural gas, landfill gas, or renewable non-fossil fuel gases.</p> <p>NOx Monitoring System = Continuous emissions monitoring system</p> <p>Annual Heat Input = Annual heat input is greater than 2.2(10¹¹) Btu/yr, based on a rolling 12-month average.</p> <p>NOx Emission Limitation = Title 30 TAC §§ 117.310(d)(3) and 117.310(a)(8)</p>
GRPFURN4	30 TAC Chapter 112, Sulfur Compounds	REG2-1	<p>Effective Stack Height = The effective stack height is equal to or greater than the standard effective stack height.</p>
GRPFURN4	30 TAC Chapter 117, Subchapter B	R7ICI-1	<p>Diluent CEMS = The process heater does not use a carbon dioxide CEMS to monitor diluent.</p> <p>Fuel Flow Monitoring = Unit vents to a common stack with a NO_x and diluent CEMS and utilizes a single totalizing fuel flow meter per 30 TAC §§ 117.140(a)(2)(B), 117.340(a)(2)(B) or 117.440(a)(2)(B).</p> <p>Unit Type = Process heater</p> <p>CO Emission Limitation = Title 30 TAC § 117.310(c)(1) 400 ppmv option</p> <p>Maximum Rated Capacity = Maximum rated capacity is at least 200 MMBtu/hr.</p> <p>CO Monitoring System = Continuous emission monitoring system complying with 30 TAC § 117.8100(a)(1).</p> <p>NOx Emission Limit Basis = Emission limit basis is not a 30 day rolling average or a block one-hour average</p> <p>NOx Reduction = No NO_x control method</p> <p>Fuel Type #1 = Gaseous fuel other than natural gas, landfill gas, or renewable non-fossil fuel gases.</p> <p>NOx Monitoring System = Continuous emissions monitoring system</p> <p>Annual Heat Input = Annual heat input is greater than 2.2(10¹¹) Btu/yr, based on a rolling 12-month average.</p> <p>NOx Emission Limitation = Title 30 TAC §§ 117.310(d)(3) and 117.310(a)(8)</p>
GRPFURN5	30 TAC Chapter 117, Subchapter B	R7ICI-1	<p>Diluent CEMS = The process heater does not use a carbon dioxide CEMS to monitor diluent.</p> <p>Fuel Flow Monitoring = Unit vents to a common stack with a NO_x and diluent CEMS and utilizes a single totalizing fuel flow meter per 30 TAC §§ 117.140(a)(2)(B), 117.340(a)(2)(B) or 117.440(a)(2)(B).</p> <p>Unit Type = Process heater</p> <p>CO Emission Limitation = Title 30 TAC § 117.310(c)(1) 400 ppmv option</p> <p>Maximum Rated Capacity = Maximum rated capacity is at least 200 MMBtu/hr.</p> <p>CO Monitoring System = Continuous emission monitoring system complying with 30 TAC § 117.8100(a)(1).</p> <p>NOx Emission Limit Basis = Emission limit basis is not a 30 day rolling average or a block one-hour average</p> <p>NH3 Emission Limitation = Title 30 TAC § 117.310(c)(2)</p> <p>NOx Reduction = Post combustion control technique with ammonia injection</p> <p>Fuel Type #1 = Gaseous fuel other than natural gas, landfill gas, or renewable non-fossil fuel gases.</p> <p>NOx Monitoring System = Continuous emissions monitoring system</p> <p>Annual Heat Input = Annual heat input is greater than 2.2(10¹¹) Btu/yr, based on a rolling 12-month average.</p> <p>NOx Emission Limitation = Title 30 TAC §§ 117.310(d)(3) and 117.310(a)(8)</p>

Unit ID	Regulation	Index Number	Basis of Determination*
H1300	30 TAC Chapter 117, Subchapter B	R7ICI-1	<p>Diluent CEMS = The process heater does not use a carbon dioxide CEMS to monitor diluent.</p> <p>Fuel Flow Monitoring = Fuel flow is monitored with a totalizing fuel flow meter per 30 TAC §§ 117.140(a), 117.340(a) or 117.440(a).</p> <p>Unit Type = Process heater</p> <p>CO Emission Limitation = Title 30 TAC § 117.310(c)(1) 400 ppmv option</p> <p>Maximum Rated Capacity = Maximum rated capacity is at least 40 MMBtu/hr, but less than 100 MMBtu/hr.</p> <p>CO Monitoring System = Emissions are monitored using methods other than CEMS or PEMS.</p> <p>NOx Emission Limit Basis = Emission limit basis is not a 30 day rolling average or a block one-hour average</p> <p>NOx Reduction = No NO_x control method</p> <p>Fuel Type #1 = Gaseous fuel other than natural gas, landfill gas, or renewable non-fossil fuel gases.</p> <p>NOx Monitoring System = Maximum emission rate testing [in accordance with 30 TAC § 117.8000]</p> <p>Annual Heat Input = Annual heat input is greater than 2.8(10¹¹) Btu/yr, based on a rolling 12-month average.</p> <p>NOx Emission Limitation = Title 30 TAC §§ 117.310(d)(3) and 117.310(a)(8)</p>
H1300	40 CFR Part 63, Subpart DDDDD	63DDDDDD	CONSTRUCTION/RECONSTRUCTION DATE = Construction or reconstruction began on or before June 4, 2010.
H902	30 TAC Chapter 117, Subchapter B	R7ICI-1	<p>Diluent CEMS = The process heater does not use a carbon dioxide CEMS to monitor diluent.</p> <p>Fuel Flow Monitoring = Unit vents to a common stack with a NO_x and diluent CEMS and utilizes a single totalizing fuel flow meter per 30 TAC §§ 117.140(a)(2)(B), 117.340(a)(2)(B) or 117.440(a)(2)(B).</p> <p>Unit Type = Process heater</p> <p>CO Emission Limitation = Title 30 TAC § 117.310(c)(1) 400 ppmv option</p> <p>Maximum Rated Capacity = Maximum rated capacity is at least 200 MMBtu/hr.</p> <p>CO Monitoring System = Continuous emission monitoring system complying with 30 TAC § 117.8100(a)(1).</p> <p>NOx Emission Limit Basis = Emission limit basis is not a 30 day rolling average or a block one-hour average</p> <p>NOx Reduction = No NO_x control method</p> <p>Fuel Type #1 = Gaseous fuel other than natural gas, landfill gas, or renewable non-fossil fuel gases.</p> <p>NOx Monitoring System = Continuous emissions monitoring system</p> <p>Annual Heat Input = Annual heat input is greater than 2.2(10¹¹) Btu/yr, based on a rolling 12-month average.</p> <p>NOx Emission Limitation = Title 30 TAC §§ 117.310(d)(3) and 117.310(a)(8)</p>
H902	40 CFR Part 63, Subpart DDDDD	63DDDDDD	CONSTRUCTION/RECONSTRUCTION DATE = Construction or reconstruction began on or before June 4, 2010.
H87920	30 TAC Chapter 112, Sulfur Compounds	REG2-1	<p>Fuel Type = Liquid fuel with a sulfur content less than or equal to 0.3% by weight.</p> <p>Heat Input = Design heat input is greater than 250 MMBtu/hr.</p> <p>Control Equipment = Unit not equipped with SO₂ control equipment.</p> <p>Stack Height = The effective stack height is at least the standard effective stack height for each stack to which the unit routes emissions.</p>
H87920	30 TAC Chapter 117, Subchapter	R7201-1	NOx Emission Limitation = Title 30 TAC § 117.310(d)(3) [relating to mass emissions cap and trade in 30 TAC Chapter 101, Subchapter H, Division 3 and Emission Specifications for Attainment Demonstration].

Unit ID	Regulation	Index Number	Basis of Determination*
	B		<p>Unit Type = Other industrial, commercial, or institutional boiler.</p> <p>Maximum Rated Capacity = MRC is greater than or equal to 250 MMBtu/hr.</p> <p>NOx Monitoring System = Continuous emissions monitoring system.</p> <p>Fuel Flow Monitoring = Unit operates with a NO_x and diluent CEMS and monitors stack exhaust flow per 30 TAC §§ 117.140(a)(2)(A), 117.340(a)(2)(A) or 117.440_x(a)(2)(A).</p> <p>CO Emission Limitation = Title 30 TAC § 117.310(c)(1) 400 ppmv option.</p> <p>CO Monitoring System = Continuous emissions monitoring system complying with 30 TAC § 117.8100(a)(1).</p> <p>EGF System Cap Unit = The unit is not used as an electric generating facility to generate electricity for sale to the electric grid.</p> <p>Fuel Type #1 = Natural gas.</p> <p>Fuel Type #2 = Liquid fuel.</p> <p>NOx Emission Limit Average = Emission limit in pounds/MMBtu on a rolling 30-day average.</p> <p>NOx Reductions = Forced flue gas recirculation.</p> <p>Annual Heat Input = Annual heat input is greater than 2.2(10¹¹) Btu/yr, based on rolling 12-month average.</p>
H87920	40 CFR Part 60, Subpart Db	60-Db-1	<p>Alternate Emission Limit (AEL) = The facility combusts byproduct/waste with either natural gas or oil and did not petition the EPA Administrator to establish a NO_x emission limit that applies specifically when the byproduct/waste is combusted.</p> <p>Construction/Modification Date = Constructed or reconstructed after July 9, 1997, and on or before February 28, 2005.</p> <p>D-Series Fuel Type #1 = Natural gas.</p> <p>D-Series Fuel Type #2 = Hazardous waste.</p> <p>Heat Input Capacity = Heat input capacity is greater than 250 MMBtu/hr (73 MW).</p> <p>PM Monitoring Type = No particulate monitoring.</p> <p>Opacity Monitoring Type = No particulate (opacity) monitoring.</p> <p>Subpart Da = The affected facility does not meet applicability requirements of 40 CFR Part 60, Subpart Da.</p> <p>Changes to Existing Affected Facility = No change has been made to the existing steam generating unit, which was not previously subject to 40 CFR Part 60, Subpart Db, for the sole purpose of combusting gases containing totally reduced sulfur as defined under 40 CFR § 60.281.</p> <p>NOx Monitoring Type = Continuous emission monitoring system.</p> <p>Electrical or Mechanical Output = 10% or less of the annual output is electrical or mechanical.</p> <p>SO2 Monitoring Type = No SO₂ monitoring.</p> <p>Subpart Ea, Eb or AAAA = The affected facility does not meet applicability requirements of and is subject to 40 CFR Part 60, Subpart Ea, Eb or AAAA.</p> <p>Subpart J = The affected facility does not meet applicability requirements of 40 CFR Part 60, Subpart J.</p> <p>Subpart E = The affected facility does not meet applicability requirements of 40 CFR Part 60, Subpart E.</p> <p>Subpart KKKK = The affected facility is not a heat recovery steam generator associated with combined cycle gas turbines and that meets applicability requirements of and is subject to 40 CFR Part 60, Subpart KKKK.</p> <p>Technology Type = Other conventional technology.</p> <p>ACF Option - SO2 = Other ACF or no ACF.</p> <p>Subpart Cb or BBBB = The affected facility is not covered by an EPA approved State or Federal section 111(d)/129 plan implementing 40 CFR Part 60, Subpart Cb or BBBB emission guidelines.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			Unit Type = OTHER UNIT TYPE ACF Option - PM = Other ACF or no ACF. Heat Release Rate = Natural gas with a heat release rate less than or equal to 70 MBtu/hr/ft ³ . ACF Option - NOx = Other ACF or no ACF. Heat Input Gas/Oil = The facility combusts natural gas or distillate oil in excess of 30% of the heat input from the combustion of all fuels.
H87920	40 CFR Part 60, Subpart Dc	60-Db-1	Construction/Modification Date = After June 9, 1989 but on or before February 28, 2005. Maximum Design Heat Input Capacity = Maximum design heat input capacity is greater than 100 MMBtu/hr (29 MW).
A1301	30 TAC Chapter 111, Visible Emissions	R1111-1	Acid Gases Only = Flare is not used only as an acid gas flare as defined in 30 TAC § 101.1. Emergency/Upset Conditions Only = Flare is used under conditions other than emergency or upset conditions.
A1301	30 TAC Chapter 115, HRVOC Vent Gas	R5720-1	Monitoring Requirements = Flare is complying with the continuous monitoring requirements of § 115.725(d). Out of Service = Flare was not permanently out of service by April 1, 2006. Total Gas Stream = Flare receives a total gas stream with greater than 100 ppmv HRVOC at some time. Gas Stream Concentration = Flare receives a gas stream containing 5% or greater HRVOC by weight at some time. Multi-Purpose Usage = Flare is used for abatement of emissions from marine loading or transport vessel loading and unloading operations AND for abatement of emissions from scheduled or unscheduled maintenance, startup or shutdown activities AND as an emergency flare. Flow Rate = Flow rate of the gas routed to the flare is determined using the requirements of § 115.725(d)(1). Alternative Monitoring = No alternative monitoring and test methods are used. Physical Seal = Flare is equipped with a flow monitor or indicator. Minor Modificaiton = No minor modifications to the monitoring and test methods are used. Tank Service = Flare is not in dedicated service for storage tanks with 95% or greater of an individual HRVOC. Flare Type = Flare is in multi-purpose service.
A1301	40 CFR Part 60, Subpart A	60A-1	Subject to 40 CFR § 60.18 = Flare is subject to 40 CFR § 60.18. Adhering to Heat Content Specifications = Adhering to the heat content specifications in 40 CFR § 60.18(c)(3)(ii) and the maximum tip velocity specifications in 40 CFR § 60.18(c)(4). Flare Assist Type = Steam-assisted Flare Exit Velocity = Flare exit velocity is less than 60 ft/s (18.3 m/sec)
A1301	40 CFR Part 63, Subpart A	63A-1	Required Under 40 CFR Part 63 = Flare is required by a Subpart under 40 CFR Part 63. Heat Content Specification = Adhering to the heat content specifications in 40 CFR § 63.11(b)(6)(ii) and the maximum tip velocity specifications in 40 CFR § 63.11(b)(7) or 40 CFR § 63.11(b)(8). Flare Assist Type = Steam assisted Flare Exit Velocity = Flare exit velocity is less than 60 ft/s (18.3 m/sec)
A1333	30 TAC Chapter 111, Visible Emissions	R1111-1	Acid Gases Only = Flare is not used only as an acid gas flare as defined in 30 TAC § 101.1. Emergency/Upset Conditions Only = Flare is used under conditions other than emergency or upset conditions.
A1333	30 TAC Chapter	R5720-1	Monitoring Requirements = Flare is complying with the continuous monitoring requirements of § 115.725(d).

Unit ID	Regulation	Index Number	Basis of Determination*
	115, HRVOC Vent Gas		<p>Out of Service = Flare was not permanently out of service by April 1, 2006.</p> <p>Total Gas Stream = Flare receives a total gas stream with greater than 100 ppmv HRVOC at some time.</p> <p>Gas Stream Concentration = Flare receives a gas stream containing 5% or greater HRVOC by weight at some time.</p> <p>Multi-Purpose Usage = Flare is used for abatement of emissions from scheduled or undcheduled maintenance, startup or shutdown activities AND as an emergency flare.</p> <p>Flow Rate = Flow rate of the gas routed to the flare is determined using the requirements of § 115.725(d)(1).</p> <p>Alternative Monitoring = No alternative monitoring and test methods are used.</p> <p>Physical Seal = Flare is equipped with a flow monitor or indicator.</p> <p>Minor Modificaiton = No minor modifications to the monitoring and test methods are used.</p> <p>Tank Service = Flare is not in dedicated service for storage tanks with 95% or greater of an individual HRVOC.</p> <p>Flare Type = Flare is in multi-purpose service.</p>
A1333	40 CFR Part 60, Subpart A	60A-1	<p>Subject to 40 CFR § 60.18 = Flare is subject to 40 CFR § 60.18.</p> <p>Adhering to Heat Content Specifications = Adhering to the heat content specifications in 40 CFR § 60.18(c)(3)(ii) and the maximum tip velocity specifications in 40 CFR § 60.18(c)(4).</p> <p>Flare Assist Type = Steam-assisted</p> <p>Flare Exit Velocity = Flare exit velocity is less than 60 ft/s (18.3 m/sec)</p>
A1333	40 CFR Part 63, Subpart A	63A-1	<p>Required Under 40 CFR Part 63 = Flare is required by a Subpart under 40 CFR Part 63.</p> <p>Heat Content Specification = Adhering to the heat content specifications in 40 CFR § 63.11(b)(6)(ii) and the maximum tip velocity specifications in 40 CFR § 63.11(b)(7) or 40 CFR § 63.11(b)(8).</p> <p>Flare Assist Type = Steam assisted</p> <p>Flare Exit Velocity = Flare exit velocity is less than 60 ft/s (18.3 m/sec)</p>
OP2ELFLA	30 TAC Chapter 111, Visible Emissions	R1111-1	<p>Acid Gases Only = Flare is not used only as an acid gas flare as defined in 30 TAC § 101.1.</p> <p>Emergency/Upset Conditions Only = Flare is used under conditions other than emergency or upset conditions.</p>
OP2ELFLA	30 TAC Chapter 115, HRVOC Vent Gas	R5720-1	<p>Monitoring Requirements = Flare is complying with the continuous monitoring requirements of § 115.725(d).</p> <p>Out of Service = Flare was not permanently out of service by April 1, 2006.</p> <p>Total Gas Stream = Flare receives a total gas stream with greater than 100 ppmv HRVOC at some time.</p> <p>Gas Stream Concentration = Flare receives a gas stream containing 5% or greater HRVOC by weight at some time.</p> <p>Multi-Purpose Usage = Flare is used for abatement of emissions from scheduled or undcheduled maintenance, startup or shutdown activities AND as an emergency flare.</p> <p>Flow Rate = Flow rate of the gas routed to the flare is determined using the requirements of § 115.725(d)(1).</p> <p>Alternative Monitoring = No alternative monitoring and test methods are used.</p> <p>Physical Seal = Flare is equipped with a physical seal.</p> <p>Minor Modificaiton = No minor modifications to the monitoring and test methods are used.</p> <p>Tank Service = Flare is not in dedicated service for storage tanks with 95% or greater of an individual HRVOC.</p> <p>Flare Type = Flare is in multi-purpose service.</p>
OP2ELFLA	40 CFR Part 60,	60A-1	Subject to 40 CFR § 60.18 = Flare is subject to 40 CFR § 60.18.

Unit ID	Regulation	Index Number	Basis of Determination*
	Subpart A		Adhering to Heat Content Specifications = Adhering to the heat content specifications in 40 CFR § 60.18(c)(3)(ii) and the maximum tip velocity specifications in 40 CFR § 60.18(c)(4). Flare Assist Type = Steam-assisted Flare Exit Velocity = Flare exit velocity is less than 60 ft/s (18.3 m/sec)
OP2ELFLA	40 CFR Part 63, Subpart A	63A-1	Required Under 40 CFR Part 63 = Flare is required by a Subpart under 40 CFR Part 63. Heat Content Specification = Adhering to the heat content specifications in 40 CFR § 63.11(b)(6)(ii) and the maximum tip velocity specifications in 40 CFR § 63.11(b)(7) or 40 CFR § 63.11(b)(8). Flare Assist Type = Steam assisted Flare Exit Velocity = Flare exit velocity is less than 60 ft/s (18.3 m/sec)
OP3ELFLA	30 TAC Chapter 111, Visible Emissions	R1111-1	Acid Gases Only = Flare is not used only as an acid gas flare as defined in 30 TAC § 101.1. Emergency/Upset Conditions Only = Flare is used under conditions other than emergency or upset conditions.
OP3ELFLA	30 TAC Chapter 115, HRVOC Vent Gas	R5720-1	Monitoring Requirements = Flare is complying with the continuous monitoring requirements of § 115.725(d). Out of Service = Flare was not permanently out of service by April 1, 2006. Total Gas Stream = Flare receives a total gas stream with greater than 100 ppmv HRVOC at some time. Gas Stream Concentration = Flare receives a gas stream containing 5% or greater HRVOC by weight at some time. Multi-Purpose Usage = Flare is used for abatement of emissions from scheduled or undcheduled maintenance, startup or shutdown activities AND as an emergency flare. Flow Rate = Flow rate of the gas routed to the flare is determined using the requirements of § 115.725(d)(1). Alternative Monitoring = No alternative monitoring and test methods are used. Physical Seal = Flare is equipped with a physical seal. Minor Modificaition = No minor modifications to the monitoring and test methods are used. Tank Service = Flare is not in dedicated service for storage tanks with 95% or greater of an individual HRVOC. Flare Type = Flare is in multi-purpose service.
OP3ELFLA	40 CFR Part 60, Subpart A	60A-1	Subject to 40 CFR § 60.18 = Flare is subject to 40 CFR § 60.18. Adhering to Heat Content Specifications = Adhering to the heat content specifications in 40 CFR § 60.18(c)(3)(ii) and the maximum tip velocity specifications in 40 CFR § 60.18(c)(4). Flare Assist Type = Steam-assisted Flare Exit Velocity = Flare exit velocity is less than 60 ft/s (18.3 m/sec)
OP3ELFLA	40 CFR Part 63, Subpart A	63A-1	Required Under 40 CFR Part 63 = Flare is required by a Subpart under 40 CFR Part 63. Heat Content Specification = Adhering to the heat content specifications in 40 CFR § 63.11(b)(6)(ii) and the maximum tip velocity specifications in 40 CFR § 63.11(b)(7) or 40 CFR § 63.11(b)(8). Flare Assist Type = Steam assisted Flare Exit Velocity = Flare exit velocity is less than 60 ft/s (18.3 m/sec)
OP3GRFLA	30 TAC Chapter 111, Visible Emissions	R1111-1	Acid Gases Only = Flare is not used only as an acid gas flare as defined in 30 TAC § 101.1. Emergency/Upset Conditions Only = Flare is used under conditions other than emergency or upset conditions.

Unit ID	Regulation	Index Number	Basis of Determination*
OP3GRFLA	30 TAC Chapter 115, HRVOC Vent Gas	R5720-1	<p>Monitoring Requirements = Flare is complying with the continuous monitoring requirements of § 115.725(d).</p> <p>Out of Service = Flare was not permanently out of service by April 1, 2006.</p> <p>Total Gas Stream = Flare receives a total gas stream with greater than 100 ppmv HRVOC at some time.</p> <p>Gas Stream Concentration = Flare receives a gas stream containing 5% or greater HRVOC by weight at some time.</p> <p>Multi-Purpose Usage = Flare is used for abatement of emissions from scheduled or undcheduled maintenance, startup or shutdown activities AND as an emergency flare.</p> <p>Flow Rate = Flow rate of the gas routed to the flare is determined using the requirements of § 115.725(d)(1).</p> <p>Alternative Monitoring = No alternative monitoring and test methods are used.</p> <p>Physical Seal = Flare is equipped with a physical seal.</p> <p>Minor Modificaiton = No minor modifications to the monitoring and test methods are used.</p> <p>Tank Service = Flare is not in dedicated service for storage tanks with 95% or greater of an individual HRVOC.</p> <p>Flare Type = Flare is in multi-purpose service.</p>
OP3GRFLA	40 CFR Part 60, Subpart A	60A-1	<p>Subject to 40 CFR § 60.18 = Flare is subject to 40 CFR § 60.18.</p> <p>Adhering to Heat Content Specifications = Adhering to the heat content specifications in 40 CFR § 60.18(c)(3)(ii) and the maximum tip velocity specifications in 40 CFR § 60.18(c)(4).</p> <p>Flare Assist Type = Steam-assisted</p> <p>Flare Exit Velocity = Flare exit velocity is greater than or equal to 60 ft/s (18.3 m/sec) but less than 400 ft/s (122 m/sec).</p> <p>Heating Value of Gas = Heating value is less than or equal to 1000 Btu/scf (37.3 MJ/scm).</p>
OP3GRFLA	40 CFR Part 63, Subpart A	63A-1	<p>Required Under 40 CFR Part 63 = Flare is required by a Subpart under 40 CFR Part 63.</p> <p>Heat Content Specification = Adhering to the heat content specifications in 40 CFR § 63.11(b)(6)(ii) and the maximum tip velocity specifications in 40 CFR § 63.11(b)(7) or 40 CFR § 63.11(b)(8).</p> <p>Flare Assist Type = Steam assisted</p> <p>Flare Exit Velocity = Flare exit velocity is greater than or equal to 60 ft/s (18.3 m/sec) but less than 400 ft/s (122 m/sec).</p> <p>Heating Value of Gas = Heating value is less than or equal to 1000 Btu/scf (37.3 MJ/scm).</p>
BD3FUG	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5352ALL	SOP/GOP Index No. = Owner/Operator assumes VOC fugitive control requirements for all components subject to 30 TAC Chapter 115, Subchapter D, Division 3 with no alternate control or control device.
BD3FUG	40 CFR Part 63, Subpart H	63HALL	SOP Index No. = Owner/Operator assumes fugitive control requirements for all components in VOC or VHAP service subject to 40 CFR Part 63, Subpart H with no alternated control or control device.
CIPXFUG	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5352ALL	SOP/GOP Index No. = Owner/Operator assumes VOC fugitive control requirements for all components subject to 30 TAC Chapter 115, Subchapter D, Division 3 with no alternate control or control device.
CIPXFUG	40 CFR Part 61, Subpart J	61JALL	SOP Index No. = OWNER/OPERATOR ASSUMES FUGITIVE CONTROL REQUIREMENTS FOR ALL COMPONENTS IN BENZENE SERVICE SUBJECT TO NESHAPS J WITH NO ALTERNATE CONTROL OR CONTROL DEVICE
CIPXFUG	40 CFR Part 61, Subpart V	61VALL	SOP Index No. = Owner or operator assumes fugitive unit control requirements for all components in benzene service subject to 40 CFR Part 61, Subpart V with no alternate control or control device.

Unit ID	Regulation	Index Number	Basis of Determination*
CIPXFUG	40 CFR Part 63, Subpart FFFF	63FFFF	Existing Source = Fugitive unit contains equipment in an existing Miscellaneous Chemical Processing Unit.
ENVSOFLR	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5352ALL	SOP/GOP Index No. = Owner/Operator assumes VOC fugitive control requirements for all components subject to 30 TAC Chapter 115, Subchapter D, Division 3 with no alternate control or control device.
FUGACU	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5352ALL	SOP/GOP Index No. = Owner/Operator assumes VOC fugitive control requirements for all components subject to 30 TAC Chapter 115, Subchapter D, Division 3 with no alternate control or control device.
FUGACU	40 CFR Part 61, Subpart J	61JALL	SOP Index No. = OWNER/OPERATOR ASSUMES FUGITIVE CONTROL REQUIREMENTS FOR ALL COMPONENTS IN BENZENE SERVICE SUBJECT TO NESHAPS J WITH NO ALTERNATE CONTROL OR CONTROL DEVICE
FUGACU	40 CFR Part 61, Subpart V	61VALL	SOP Index No. = Owner or operator assumes fugitive unit control requirements for all components in benzene service subject to 40 CFR Part 61, Subpart V with no alternate control or control device.
FUGACU	40 CFR Part 63, Subpart H	63HALL	SOP Index No. = Owner/Operator assumes fugitive control requirements for all components in VOC or VHAP service subject to 40 CFR Part 63, Subpart H with no alternated control or control device.
FUGBEU	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5352ALL	SOP/GOP Index No. = Owner/Operator assumes VOC fugitive control requirements for all components subject to 30 TAC Chapter 115, Subchapter D, Division 3 with no alternate control or control device.
FUGBEU	40 CFR Part 61, Subpart J	61JALL	SOP Index No. = OWNER/OPERATOR ASSUMES FUGITIVE CONTROL REQUIREMENTS FOR ALL COMPONENTS IN BENZENE SERVICE SUBJECT TO NESHAPS J WITH NO ALTERNATE CONTROL OR CONTROL DEVICE
FUGBEU	40 CFR Part 61, Subpart V	61VALL	SOP Index No. = Owner or operator assumes fugitive unit control requirements for all components in benzene service subject to 40 CFR Part 61, Subpart V with no alternate control or control device.
FUGBEU	40 CFR Part 63, Subpart H	63HALL	SOP Index No. = Owner/Operator assumes fugitive control requirements for all components in VOC or VHAP service subject to 40 CFR Part 63, Subpart H with no alternated control or control device.
FUGBIFBOIL	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5352ALL	SOP/GOP Index No. = Owner/Operator assumes VOC fugitive control requirements for all components subject to 30 TAC Chapter 115, Subchapter D, Division 3 with no alternate control or control device.
FUGBIFBOIL	40 CFR Part 63, Subpart H	63HALL	SOP Index No. = Owner/Operator assumes fugitive control requirements for all components in VOC or VHAP service subject to 40 CFR Part 63, Subpart H with no alternated control or control device.
FUGOXU	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5352ALL	SOP/GOP Index No. = Owner/Operator assumes VOC fugitive control requirements for all components subject to 30 TAC Chapter 115, Subchapter D, Division 3 with no alternate control or control device.
FUGOXU	40 CFR Part 61, Subpart J	61JALL	SOP Index No. = OWNER/OPERATOR ASSUMES FUGITIVE CONTROL REQUIREMENTS FOR ALL COMPONENTS IN BENZENE SERVICE SUBJECT TO NESHAPS J WITH NO ALTERNATE CONTROL OR CONTROL DEVICE
FUGOXU	40 CFR Part 61, Subpart V	61VALL	SOP Index No. = Owner or operator assumes fugitive unit control requirements for all components in benzene service subject to 40 CFR Part 61, Subpart V with no alternate control or control device.
FUGOXU	40 CFR Part 63, Subpart H	63HALL	SOP Index No. = Owner/Operator assumes fugitive control requirements for all components in VOC or VHAP service subject to 40 CFR Part 63, Subpart H with no alternated control or control device.

Unit ID	Regulation	Index Number	Basis of Determination*
	Subpart H		to 40 CFR Part 63, Subpart H with no alternated control or control device.
FUGPAU3	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5352ALL	SOP/GOP Index No. = Owner/Operator assumes VOC fugitive control requirements for all components subject to 30 TAC Chapter 115, Subchapter D, Division 3 with no alternate control or control device.
FUGPAU3	40 CFR Part 63, Subpart H	63HALL	SOP Index No. = Owner/Operator assumes fugitive control requirements for all components in VOC or VHAP service subject to 40 CFR Part 63, Subpart H with no alternated control or control device.
HT2FUG	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5352ALL	SOP/GOP Index No. = Owner/Operator assumes VOC fugitive control requirements for all components subject to 30 TAC Chapter 115, Subchapter D, Division 3 with no alternate control or control device.
HT2FUG	40 CFR Part 61, Subpart J	61JALL	SOP Index No. = OWNER/OPERATOR ASSUMES FUGITIVE CONTROL REQUIREMENTS FOR ALL COMPONENTS IN BENZENE SERVICE SUBJECT TO NESHAPS J WITH NO ALTERNATE CONTROL OR CONTROL DEVICE
HT2FUG	40 CFR Part 61, Subpart V	61VALL	SOP Index No. = Owner or operator assumes fugitive unit control requirements for all components in benzene service subject to 40 CFR Part 61, Subpart V with no alternate control or control device.
HT2FUG	40 CFR Part 63, Subpart FFFF	63FFFF	Existing Source = Fugitive unit contains equipment in an existing Miscellaneous Chemical Processing Unit.
HT3FUG	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5352ALL	SOP/GOP Index No. = Owner/Operator assumes VOC fugitive control requirements for all components subject to 30 TAC Chapter 115, Subchapter D, Division 3 with no alternate control or control device.
IRUFUG	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5352ALL	SOP/GOP Index No. = Owner/Operator assumes VOC fugitive control requirements for all components subject to 30 TAC Chapter 115, Subchapter D, Division 3 with no alternate control or control device.
IRUFUG	40 CFR Part 60, Subpart VV	60VVALL	SOP Index No. = Owner or operator assumes fugitive unit control requirements for all components in VOC service subject to 40 CFR Part 60, Subpart VV with no alternate control or control devices.
IRUFUG	40 CFR Part 63, Subpart FFFF	63FFFF	Existing Source = Fugitive unit contains equipment in an existing Miscellaneous Chemical Processing Unit.
LPGFE	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5352ALL	SOP/GOP Index No. = Owner/Operator assumes VOC fugitive control requirements for all components subject to 30 TAC Chapter 115, Subchapter D, Division 3 with no alternate control or control device.
OL3FUG	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5352ALL	SOP/GOP Index No. = Owner/Operator assumes VOC fugitive control requirements for all components subject to 30 TAC Chapter 115, Subchapter D, Division 3 with no alternate control or control device.
OL3FUG	40 CFR Part 61, Subpart J	61JALL	SOP Index No. = OWNER/OPERATOR ASSUMES FUGITIVE CONTROL REQUIREMENTS FOR ALL COMPONENTS IN BENZENE SERVICE SUBJECT TO NESHAPS J WITH NO ALTERNATE CONTROL OR CONTROL DEVICE
OL3FUG	40 CFR Part 61, Subpart V	61VALL	SOP Index No. = Owner or operator assumes fugitive unit control requirements for all components in benzene service subject to 40 CFR Part 61, Subpart V with no alternate control or control device. VHAP Service = The fugitive unit contains components in VHAP service.

Unit ID	Regulation	Index Number	Basis of Determination*
OL3FUG	40 CFR Part 63, Subpart YY	63YY	Source Type = Ethylene Production. Equipment Type = The fugitive unit contains equipment, as defined in § 63.1101, contactin hazardous air pollutants in Tables 1 through 7 or Table 9, as appropriate.
OP2FUG	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5352ALL	SOP/GOP Index No. = Owner/Operator assumes VOC fugitive control requirements for all components subject to 30 TAC Chapter 115, Subchapter D, Division 3 with no alternate control or control device.
OP2FUG	40 CFR Part 61, Subpart J	61JALL	SOP Index No. = OWNER/OPERATOR ASSUMES FUGITIVE CONTROL REQUIREMENTS FOR ALL COMPONENTS IN BENZENE SERVICE SUBJECT TO NESHAPS J WITH NO ALTERNATE CONTROL OR CONTROL DEVICE
OP2FUG	40 CFR Part 61, Subpart V	61VALL	SOP Index No. = Owner or operator assumes fugitive unit control requirements for all components in benzene service subject to 40 CFR Part 61, Subpart V with no alternate control or control device. VHAP Service = The fugitive unit contains components in VHAP service.
OP2FUG	40 CFR Part 63, Subpart YY	63YY	Source Type = Ethylene Production. Equipment Type = The fugitive unit contains equipment, as defined in § 63.1101, contactin hazardous air pollutants in Tables 1 through 7 or Table 9, as appropriate.
PAUFE	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5352ALL	SOP/GOP Index No. = Owner/Operator assumes VOC fugitive control requirements for all components subject to 30 TAC Chapter 115, Subchapter D, Division 3 with no alternate control or control device.
PAUFE	40 CFR Part 60, Subpart VV	60VVALL	SOP Index No. = Owner or operator assumes fugitive unit control requirements for all components in VOC service subject to 40 CFR Part 60, Subpart VV with no alternate control or control devices.
PAUFE	40 CFR Part 63, Subpart H	63HALL	SOP Index No. = Owner/Operator assumes fugitive control requirements for all components in VOC or VHAP service subject to 40 CFR Part 63, Subpart H with no alternated control or control device.
PY3FUG	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5352ALL	SOP/GOP Index No. = Owner/Operator assumes VOC fugitive control requirements for all components subject to 30 TAC Chapter 115, Subchapter D, Division 3 with no alternate control or control device.
PY3FUG	40 CFR Part 61, Subpart J	61JALL	SOP Index No. = OWNER/OPERATOR ASSUMES FUGITIVE CONTROL REQUIREMENTS FOR ALL COMPONENTS IN BENZENE SERVICE SUBJECT TO NESHAPS J WITH NO ALTERNATE CONTROL OR CONTROL DEVICE
PY3FUG	40 CFR Part 61, Subpart V	61VALL	SOP Index No. = Owner or operator assumes fugitive unit control requirements for all components in benzene service subject to 40 CFR Part 61, Subpart V with no alternate control or control device. VHAP Service = The fugitive unit contains components in VHAP service.
SITE3FE	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5352ALL	SOP/GOP Index No. = Owner/Operator assumes VOC fugitive control requirements for all components subject to 30 TAC Chapter 115, Subchapter D, Division 3 with no alternate control or control device.
SITE3FE	40 CFR Part 63, Subpart H	63HALL	SOP Index No. = Owner/Operator assumes fugitive control requirements for all components in VOC or VHAP service subject to 40 CFR Part 63, Subpart H with no alternated control or control device. ANY (CLOSED VENT SYSTEMS) = COMPONENT PRESENT EQUIPMENT TYPE = FUGITIVE UNIT CONTAINS EQUIPMENT LISTED IN 40 CFR § 63.160(A) WHICH IS OPERATED IN ORGANIC HAZARDOUS AIR POLLUTANT SERVICE

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>NON RESEARCH AND DEVELOPMENT/BATCH PROCESSES = FUGITIVE UNIT CONTAINS PROCESSES OTHER THAN RESEARCH AND DEVELOPMENT FACILITIES AND BENCH-SCALE BATCH PROCESSES</p> <p>VACUUM SERVICE = NOT ALL OF THE EQUIPMENT IN THE FUGITIVE UNIT IS IN VACUUM SERVICE</p> <p>LESS THAN 300 OPERATING HOURS = THE FUGITIVE UNIT DOES NOT CONTAIN ANY EQUIPMENT IN ORGANIC HAZARDOUS AIR POLLUTANT (HAP) SERVICE THAT IS INTENDED TO OPERATE LESS THAN 300 HOURS PER CALENDAR YEAR</p> <p>FLARES (CLOSED VENT SYSTEMS) = COMPONENT PRESENT</p>
WRACKFE	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5352ALL	SOP/GOP Index No. = Owner/Operator assumes VOC fugitive control requirements for all components subject to 30 TAC Chapter 115, Subchapter D, Division 3 with no alternate control or control device.
WRACKFE	40 CFR Part 63, Subpart H	63HALL	<p>SOP Index No. = Owner/Operator assumes fugitive control requirements for all components in VOC or VHAP service subject to 40 CFR Part 63, Subpart H with no alternated control or control device.</p> <p>ANY (CLOSED VENT SYSTEMS) = COMPONENT PRESENT</p> <p>EQUIPMENT TYPE = FUGITIVE UNIT CONTAINS EQUIPMENT LISTED IN 40 CFR § 63.160(A) WHICH IS OPERATED IN ORGANIC HAZARDOUS AIR POLLUTANT SERVICE</p> <p>NON RESEARCH AND DEVELOPMENT/BATCH PROCESSES = FUGITIVE UNIT CONTAINS PROCESSES OTHER THAN RESEARCH AND DEVELOPMENT FACILITIES AND BENCH-SCALE BATCH PROCESSES</p> <p>VACUUM SERVICE = NOT ALL OF THE EQUIPMENT IN THE FUGITIVE UNIT IS IN VACUUM SERVICE</p> <p>LESS THAN 300 OPERATING HOURS = THE FUGITIVE UNIT DOES NOT CONTAIN ANY EQUIPMENT IN ORGANIC HAZARDOUS AIR POLLUTANT (HAP) SERVICE THAT IS INTENDED TO OPERATE LESS THAN 300 HOURS PER CALENDAR YEAR</p> <p>FLARES (CLOSED VENT SYSTEMS) = COMPONENT PRESENT</p>
CWT13	30 TAC Chapter 115, HRVOC Cooling Towers	R5720-1	<p>Cooling Tower Heat Exchange System Exemptions = The stream directed to the cooling tower heat exchange system contains less than 5.0% by weight HRVOC.</p> <p>Jacketed Reactor = The cooling tower heat exchange system is not in dedicated service to a jacketed reactor.</p> <p>Alternative Monitoring = Complying with the specified monitoring in 30 TAC § 115.764.</p> <p>Design Capacity = Design capacity to circulate 8000 gpm or greater.</p> <p>Finite Volume System = The cooling tower heat exchange system is complying with the requirements in § 115.764(a).</p> <p>Modified Monitoring = NOT USING MINOR MODIFICATIONS TO THE MONITORING AND TESTING METHODS IN 30 TAC § 115.764.</p> <p>Flow Monitoring/Testing Method = Choosing to monitor cooling water flow rate at a point representative of the flow of cooling water from only the HRVOC-containing units.</p> <p>Total Strippable VOC = Each individual heat exchanger in the cooling tower heat exchange system has less than 5.0% HRVOC in the process side and compliance with §115.764(d) is chosen.</p>
CWT18	30 TAC Chapter 115, HRVOC Cooling Towers	R5767	Cooling Tower Heat Exchange System Exemptions = Each individual heat exchanger of the cooling tower heat exchange system does not have greater than 100 ppmw HRVOCs in the process side fluid.
CWT1D	30 TAC Chapter 115, HRVOC Cooling Towers	R5760-1	<p>Cooling Tower Heat Exchange System Exemptions = The cooling tower heat exchange system does not qualify for an exemption.</p> <p>Jacketed Reactor = The cooling tower heat exchange system is not in dedicated service to a jacketed reactor.</p> <p>Alternative Monitoring = Complying with the specified monitoring in 30 TAC § 115.764.</p> <p>Design Capacity = Design capacity to circulate less than 8000 gpm.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>Modified Monitoring = Minor modifications to the monitoring and testing methods approved by the executive director as allowed in § 115.764(f) are being used.</p> <p>Flow Monitoring/Testing Method = Choosing to monitor cooling water flow rate at a point representative of the flow of cooling water from only the HRVOC-containing units.</p> <p>Total Strippalbe VOC = The cooling tower heat exchange system is complying with the requirements of § 115.764(a).</p> <p>On-Line Monitor = A continuous on-line monitor capable of providing total HRVOC and speciated HRVOCs in ppbw is being used.</p>
CWT3C	30 TAC Chapter 115, HRVOC Cooling Towers	R5720-1	<p>Cooling Tower Heat Exchange System Exemptions = The stream directed to the cooling tower heat exchange system contains less than 5.0% by weight HRVOC.</p> <p>Jacketed Reactor = The cooling tower heat exchange system is not in dedicated service to a jacketed reactor.</p> <p>Alternative Monitoring = Complying with the specified monitoring in 30 TAC § 115.764.</p> <p>Design Capacity = Design capacity to circulate 8000 gpm or greater.</p> <p>Finite Volume System = The cooling tower heat exchange system is complying with the requirements in § 115.764(a).</p> <p>Modified Monitoring = NOT USING MINOR MODIFICATIONS TO THE MONITORING AND TESTING METHODS IN 30 TAC § 115.764.</p> <p>Flow Monitoring/Testing Method = Choosing to monitor cooling water flow rate at a point representative of the flow of cooling water from only the HRVOC-containing units.</p> <p>Total Strippalbe VOC = Each individual heat exchanger in the cooling tower heat exchange system has less than 5.0% HRVOC in the process side and compliance with §115.764(d) is chosen.</p>
CWT9	30 TAC Chapter 115, HRVOC Cooling Towers	R5767	<p>Cooling Tower Heat Exchange System Exemptions = Each individual heat exchanger of the cooling tower heat exchange system does not have greater than 100 ppmw HRVOCs in the process side fluid.</p>
OP2	30 TAC Chapter 115, HRVOC Cooling Towers	R5760-1	<p>Cooling Tower Heat Exchange System Exemptions = The cooling tower heat exchange system does not qualify for an exemption.</p> <p>Jacketed Reactor = The cooling tower heat exchange system is not in dedicated service to a jacketed reactor.</p> <p>Alternative Monitoring = Complying with the specified monitoring in 30 TAC § 115.764.</p> <p>Design Capacity = Design capacity to circulate 8000 gpm or greater.</p> <p>Finite Volume System = The cooling tower heat exchange system is complying with the requirements in § 115.764(a).</p> <p>Modified Monitoring = Minor modifications to the monitoring and testing methods approved by the executive director as allowed in § 115.764(f) are being used.</p> <p>Flow Monitoring/Testing Method = Choosing to use a continuous flow monitor on each inlet of each cooling tower in accordance with § 115.764(a)(1), (b)(1), or (h)(1).</p> <p>Total Strippalbe VOC = The cooling tower heat exchange system is complying with the requirements of § 115.764(a).</p> <p>On-Line Monitor = A continuous on-line monitor capable of providing total HRVOC and speciated HRVOCs in ppbw is being used.</p>
OP2	40 CFR Part 63, Subpart YY	63YY	<p>Heat Exchange System = The cooling tower/heat exchange system is subject to the requirements of 40 CFR § 63.1100(e).</p>
OP3CWT	30 TAC Chapter 115, HRVOC Cooling Towers	R5760-1	<p>Cooling Tower Heat Exchange System Exemptions = The cooling tower heat exchange system does not qualify for an exemption.</p> <p>Jacketed Reactor = The cooling tower heat exchange system is not in dedicated service to a jacketed reactor.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>Alternative Monitoring = Complying with the specified monitoring in 30 TAC § 115.764.</p> <p>Design Capacity = Design capacity to circulate 8000 gpm or greater.</p> <p>Finite Volume System = The cooling tower heat exchange system is complying with the requirements in § 115.764(a).</p> <p>Modified Monitoring = Minor modifications to the monitoring and testing methods approved by the executive director as allowed in § 115.764(f) are being used.</p> <p>Flow Monitoring/Testing Method = Choosing to use a continuous flow monitor on each inlet of each cooling tower in accordance with § 115.764(a)(1), (b)(1), or (h)(1).</p> <p>Total Strippalbe VOC = The cooling tower heat exchange system is complying with the requirements of § 115.764(a).</p> <p>On-Line Monitor = A continuous on-line monitor capable of providing total HRVOC and speciated HRVOCs in ppbw is being used.</p>
OP3CWT	40 CFR Part 63, Subpart YY	63YY	Heat Exchange System = The cooling tower/heat exchange system is subject to the requirements of 40 CFR § 63.1100(e).
AU602	30 TAC Chapter 115, Water Separation	R7ICI-01	<p>Alternate Control Requirement = The executive director (or the EPA Administrator) has not approved an ACR or exemption criteria in accordance with 30 TAC § 115.910.</p> <p>Exemption = Any single or multiple compartment VOC water separator which separates materials having a true vapor pressure less than 0.5 psia (3.4 kPa) obtained from any equipment.</p>
CPI	30 TAC Chapter 115, Water Separation	R5131-1	<p>Alternate Control Requirement = The executive director (or the EPA Administrator) has not approved an ACR or exemption criteria in accordance with 30 TAC § 115.910.</p> <p>Exemption = Any single or multiple compartment VOC water separator which separates materials having a true vapor pressure less than 0.5 psia (3.4 kPa) obtained from any equipment.</p>
CPI	40 CFR Part 63, Subpart VV	63VV-1	Control = No subpart of 40 CFR Parts 60, 61, or 63 references the use of 40 CFR Part 63, Subpart VV for control of emissions from the separator.
GRPAPI	30 TAC Chapter 115, Water Separation	R5131-1	<p>Alternate Control Requirement = The executive director (or the EPA Administrator) has not approved an ACR or exemption criteria in accordance with 30 TAC § 115.910.</p> <p>Exemption = Any single or multiple compartment VOC water separator which separates materials having a true vapor pressure less than 0.5 psia (3.4 kPa) obtained from any equipment.</p>
LO3CPI	30 TAC Chapter 115, Water Separation	R5131-1	<p>Alternate Control Requirement = The executive director (or the EPA Administrator) has not approved an ACR or exemption criteria in accordance with 30 TAC § 115.910.</p> <p>Exemption = Any single or multiple compartment VOC water separator which separates materials having a true vapor pressure less than 0.5 psia (3.4 kPa) obtained from any equipment.</p>
LO3CPI	30 TAC Chapter 115, Water Separation	R5131-2	<p>Alternate Control Requirement = The executive director (or the EPA Administrator) has not approved an ACR or exemption criteria in accordance with 30 TAC § 115.910.</p> <p>Exemption = Any single or multiple compartment VOC water separator which is designed solely to capture stormwater, spills, or exterior surface cleanup waters and is fully covered.</p>
NAPI	30 TAC Chapter 115, Water Separation	R5131-1	<p>Alternate Control Requirement = The executive director (or the EPA Administrator) has not approved an ACR or exemption criteria in accordance with 30 TAC § 115.910.</p> <p>Exemption = Any single or multiple compartment VOC water separator which separates materials having a true vapor pressure less than 0.5 psia (3.4 kPa) obtained from any equipment.</p>
SAPI	30 TAC Chapter 115, Water Separation	R5131-1	Alternate Control Requirement = The executive director (or the EPA Administrator) has not approved an ACR or exemption criteria in accordance with 30 TAC § 115.910.

Unit ID	Regulation	Index Number	Basis of Determination*
			Exemption = Any single or multiple compartment VOC water separator which separates materials having a true vapor pressure less than 0.5 psia (3.4 kPa) obtained from any equipment.
BD3FLR	30 TAC Chapter 115, HRVOC Vent Gas	R5720-1	<p>Alternative Monitoring = Not using alternative monitoring and testing methods.</p> <p>HRVOC Concentration = The vent gas stream has a HRVOC concentration less than 100 ppmv at all times.</p> <p>Max Flow Rate = The vent gas stream has a maximum potential flow rate greater than 100 dry standard cubic feet per hour (ft³/hr).</p> <p>Exempt Date = The vent gas stream is not exempt.</p> <p>Minor Modification = Not using any minor modification to the monitoring and testing methods of the rule.</p> <p>Vent Gas Stream Control = Vent gas stream is controlled by a flare.</p> <p>Process Knowledge = Testing using the specified appropriate reference methods and procedures are used to determine HRVOC emissions during emission events and scheduled startup, shutdown, and maintenance activities.</p> <p>Waived Testing = The executive director has not waived testing for identical vents.</p> <p>Testing Requirements = Process knowledge to determine maximum potential HRVOC hourly emissions for analyzer vents, stream system vents, vent gas streams with no HRVOC except during emission event or degassing safety device in lieu of testing.</p>
BD3FLR	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
BD3FLR	30 TAC Chapter 115, Vent Gas Controls	R5121-2	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
BD3FLR	30 TAC Chapter 115, Vent Gas Controls	R5121-3	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
BD3FLR	40 CFR Part 63,	63G-1	Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate

Unit ID	Regulation	Index Number	Basis of Determination*
	Subpart G		<p>monitoring parameters are not used.</p> <p>Control Device = Flare</p> <p>Overlap = Title 40 CFR Part 63, Subpart G only</p> <p>Group 1 = The process vent meets the definition of a Group 1 process vent.</p> <p>Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118.</p> <p>Halogenated = Vent stream is not halogenated.</p> <p>By-pass Lines = The vent system does not contain by-pass lines that can divert the vent stream from the control device.</p>
BD3FLR	40 CFR Part 63, Subpart G	63G-2	<p>Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used.</p> <p>Control Device = Flare</p> <p>Overlap = Title 40 CFR Part 63, Subpart G only</p> <p>Group 1 = The process vent meets the definition of a Group 1 process vent.</p> <p>Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118.</p> <p>Halogenated = Vent stream is not halogenated.</p> <p>By-pass Lines = The vent system does not contain by-pass lines that can divert the vent stream from the control device.</p>
BD3FLR	40 CFR Part 63, Subpart G	63G-3	<p>Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used.</p> <p>Control Device = Flare</p> <p>Overlap = Title 40 CFR Part 63, Subpart G only</p> <p>Group 1 = The process vent meets the definition of a Group 1 process vent.</p> <p>Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118.</p> <p>Halogenated = Vent stream is not halogenated.</p> <p>By-pass Lines = The vent system does not contain by-pass lines that can divert the vent stream from the control device.</p>
BD3FLRG	30 TAC Chapter 115, HRVOC Vent Gas	R5720-1	<p>Alternative Monitoring = Not using alternative monitoring and testing methods.</p> <p>HRVOC Concentration = The vent gas stream has a HRVOC concentration less than 100 ppmv at all times.</p> <p>Max Flow Rate = The vent gas stream has a maximum potential flow rate greater than 100 dry standard cubic feet per hour (ft³/hr).</p> <p>Exempt Date = The vent gas stream is not exempt.</p> <p>Minor Modification = Not using any minor modification to the monitoring and testing methods of the rule.</p> <p>Vent Gas Stream Control = Vent gas stream is controlled by a flare.</p> <p>Process Knowledge = Testing using the specified appropriate reference methods and procedures are used to determine HRVOC emissions during emission events and scheduled startup, shutdown, and maintenance activities.</p> <p>Waived Testing = The executive director has not waived testing for identical vents.</p>
BD3FLRG	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			Control Device Type = Smokeless flare Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.
BD3FLRG	30 TAC Chapter 115, Vent Gas Controls	R5121-2	Alternate Control Requirement = Alternate control is not used. Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source. Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2. Control Device Type = Smokeless flare Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.
BD3FLRG	30 TAC Chapter 115, Vent Gas Controls	R5121-3	Alternate Control Requirement = Alternate control is not used. Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source. Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2. Control Device Type = Smokeless flare Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.
BD3FLRG	40 CFR Part 63, Subpart G	63G-1	Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used. Control Device = Flare Overlap = Title 40 CFR Part 63, Subpart G only Group 1 = The process vent meets the definition of a Group 1 process vent. Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118. Halogenated = Vent stream is not halogenated. By-pass Lines = The vent system does not contain by-pass lines that can divert the vent stream from the control device.
BD3FLRG	40 CFR Part 63, Subpart G	63G-2	Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used. Control Device = Flare Overlap = Title 40 CFR Part 63, Subpart G only Group 1 = The process vent meets the definition of a Group 1 process vent. Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118. Halogenated = Vent stream is not halogenated. By-pass Lines = The vent system does not contain by-pass lines that can divert the vent stream from the control device.
BD3FLRG	40 CFR Part 63, Subpart G	63G-3	Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used. Control Device = Flare

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>Overlap = Title 40 CFR Part 63, Subpart G only</p> <p>Group 1 = The process vent meets the definition of a Group 1 process vent.</p> <p>Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118.</p> <p>Halogenated = Vent stream is not halogenated.</p> <p>By-pass Lines = The vent system does not contain by-pass lines that can divert the vent stream from the control device.</p>
CIPXFLR	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
CIPXFLR	30 TAC Chapter 115, Vent Gas Controls	R5121-2	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
CIPXFLR	30 TAC Chapter 115, Vent Gas Controls	R5121-3	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
CIPXFLR	40 CFR Part 63, Subpart FFFF	63FFFF	Emission Standard = Continuous Process Vents
CIPXFLRG	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
CIPXFLRG	30 TAC Chapter 115, Vent Gas Controls	R5121-2	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
CIPXFLRG	30 TAC Chapter 115, Vent Gas Controls	R5121-3	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
E-87100	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Direct flame incinerator in which the vent gas stream is burned at a temperature or at least 1300° F (704 C).</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
E-87100	40 CFR Part 63, Subpart G	63G-1	<p>Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used.</p> <p>Control Device = Thermal incinerator.</p> <p>Overlap = Title 40 CFR Part 60, Subpart NNN</p> <p>Group 1 = The process vent meets the definition of a Group 1 process vent.</p> <p>Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118.</p> <p>Halogenated = Vent stream is not halogenated.</p> <p>By-pass Lines = The vent system does not contain by-pass lines that can divert the vent stream from the control device.</p> <p>Electing Control = Electing to control the process vent to the levels required in 40 CFR § 63.113(a)(2) without calculating the TRE index value</p> <p>Performance Test = A performance test was conducted for determining compliance with a regulation promulgated by the EPA using the same methods specified in Subpart G and either no process changes have been made, or the results reliably indicate compliance.</p>
E-87109	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Direct flame incinerator in which the vent gas stream is burned at a temperature or at least 1300° F (704 C).</p> <p>Vent Type = Vent gas stream is emitted from an air oxidation synthetic organic chemical manufacturing process.</p> <p>VOC Concentration/Emission Rate @ Max Operating Conditions = Either the VOC concentration or emission rate is greater than the applicable exemption limit at maximum actual operating conditions or the alternate recordkeeping requirements of 30 TAC § 115.126(4) are not being selected.</p>
E-87109	40 CFR Part 63, Subpart G	63G-1	<p>Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used.</p> <p>Control Device = Thermal incinerator.</p> <p>Overlap = Title 40 CFR Part 60, Subpart III</p> <p>Group 1 = The process vent meets the definition of a Group 1 process vent.</p> <p>Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118.</p> <p>Halogenated = Vent stream is not halogenated.</p> <p>By-pass Lines = The vent system contains by-pass lines that can divert the vent stream from the control device.</p> <p>Flow Indicator = A flow indicator is installed and operated at the entrance of the by-pass line.</p> <p>Performance Test = A performance test was conducted for determining compliance with a regulation promulgated by the EPA using the same methods specified in Subpart G and either no process changes have been made, or the results reliably indicate compliance.</p>
FLACU	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
FLACU	40 CFR Part 63, Subpart G	63G-1	<p>Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used.</p> <p>Control Device = Flare</p> <p>Overlap = Title 40 CFR Part 63, Subpart G only</p> <p>Group 1 = The process vent meets the definition of a Group 1 process vent.</p> <p>Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118.</p> <p>Halogenated = Vent stream is not halogenated.</p> <p>By-pass Lines = The vent system contains by-pass lines that can divert the vent stream from the control device.</p> <p>Flow Indicator = By-pass line valve is secured with a car-seal or lock-and-key type configuration.</p> <p>Performance Test = No previous performance test was conducted.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
FLBEU	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
FLBEU	40 CFR Part 63, Subpart G	63G-1	<p>Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used.</p> <p>Control Device = Flare</p> <p>Overlap = Title 40 CFR Part 63, Subpart G only</p> <p>Group 1 = The process vent meets the definition of a Group 1 process vent.</p> <p>Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118.</p> <p>Halogenated = Vent stream is not halogenated.</p> <p>By-pass Lines = The vent system contains by-pass lines that can divert the vent stream from the control device.</p> <p>Flow Indicator = By-pass line valve is secured with a car-seal or lock-and-key type configuration.</p> <p>Performance Test = A performance test was conducted for determining compliance with a regulation promulgated by the EPA using the same methods specified in Subpart G and either no process changes have been made, or the results reliably indicate compliance.</p>
FLOXU	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
FLOXU	40 CFR Part 63, Subpart G	63G-1	<p>Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used.</p> <p>Control Device = Flare</p> <p>Overlap = Title 40 CFR Part 63, Subpart G only</p> <p>Group 1 = The process vent meets the definition of a Group 1 process vent.</p> <p>Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118.</p> <p>Halogenated = Vent stream is not halogenated.</p> <p>By-pass Lines = The vent system contains by-pass lines that can divert the vent stream from the control device.</p> <p>Flow Indicator = By-pass line valve is secured with a car-seal or lock-and-key type configuration.</p> <p>Performance Test = A performance test was conducted for determining compliance with a regulation promulgated by the EPA using the same methods specified in Subpart G and either no process changes have been made, or the results reliably indicate</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			compliance.
FLPAP	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
FLPAP	40 CFR Part 63, Subpart G	63G-1	<p>Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used.</p> <p>Control Device = Flare</p> <p>Overlap = Title 40 CFR Part 60, Subpart NNN</p> <p>Group 1 = The process vent meets the definition of a Group 1 process vent.</p> <p>Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118.</p> <p>Halogenated = Vent stream is not halogenated.</p> <p>By-pass Lines = The vent system does not contain by-pass lines that can divert the vent stream from the control device.</p> <p>Performance Test = A performance test was conducted for determining compliance with a regulation promulgated by the EPA using the same methods specified in Subpart G and either no process changes have been made, or the results reliably indicate compliance.</p>
FOL150	30 TAC Chapter 111, Visible Emissions	R1111-01	<p>Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113.</p> <p>Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit.</p> <p>Opacity Monitoring System = Optical instrument capable of measuring the opacity of emissions is not installed in the vent or optical instrumentation does not meet the requirements of § 111.111(a)(1)(D), or the vent stream does not qualify for the exemption in § 111.111(a)(3).</p> <p>Construction Date = On or before January 31, 1972</p> <p>Effluent Flow Rate = Effluent flow rate is less than 100,000 actual cubic feet per minute.</p>
FOL160	30 TAC Chapter 111, Visible Emissions	R1111-01	<p>Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113.</p> <p>Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit.</p> <p>Opacity Monitoring System = Optical instrument capable of measuring the opacity of emissions is not installed in the vent or optical instrumentation does not meet the requirements of § 111.111(a)(1)(D), or the vent stream does not qualify for the exemption in § 111.111(a)(3).</p> <p>Construction Date = On or before January 31, 1972</p> <p>Effluent Flow Rate = Effluent flow rate is less than 100,000 actual cubic feet per minute.</p>
FOL170	30 TAC Chapter 111, Visible Emissions	R1111-01	<p>Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113.</p> <p>Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit.</p> <p>Opacity Monitoring System = Optical instrument capable of measuring the opacity of emissions is not installed in the vent or</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>optical instrumentation does not meet the requirements of § 111.111(a)(1)(D), or the vent stream does not qualify for the exemption in § 111.111(a)(3).</p> <p>Construction Date = On or before January 31, 1972</p> <p>Effluent Flow Rate = Effluent flow rate is less than 100,000 actual cubic feet per minute.</p>
FOL180	30 TAC Chapter 111, Visible Emissions	R1111-01	<p>Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113.</p> <p>Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit.</p> <p>Opacity Monitoring System = Optical instrument capable of measuring the opacity of emissions is not installed in the vent or optical instrumentation does not meet the requirements of § 111.111(a)(1)(D), or the vent stream does not qualify for the exemption in § 111.111(a)(3).</p> <p>Construction Date = On or before January 31, 1972</p> <p>Effluent Flow Rate = Effluent flow rate is less than 100,000 actual cubic feet per minute.</p>
FOL190	30 TAC Chapter 111, Visible Emissions	R1111-01	<p>Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113.</p> <p>Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit.</p> <p>Opacity Monitoring System = Optical instrument capable of measuring the opacity of emissions is not installed in the vent or optical instrumentation does not meet the requirements of § 111.111(a)(1)(D), or the vent stream does not qualify for the exemption in § 111.111(a)(3).</p> <p>Construction Date = On or before January 31, 1972</p> <p>Effluent Flow Rate = Effluent flow rate is less than 100,000 actual cubic feet per minute.</p>
FOL601	30 TAC Chapter 111, Visible Emissions	R1111-01	<p>Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113.</p> <p>Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit.</p> <p>Opacity Monitoring System = Optical instrument capable of measuring the opacity of emissions is not installed in the vent or optical instrumentation does not meet the requirements of § 111.111(a)(1)(D), or the vent stream does not qualify for the exemption in § 111.111(a)(3).</p> <p>Construction Date = On or before January 31, 1972</p> <p>Effluent Flow Rate = Effluent flow rate is less than 100,000 actual cubic feet per minute.</p>
FOL602	30 TAC Chapter 111, Visible Emissions	R1111-01	<p>Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113.</p> <p>Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit.</p> <p>Opacity Monitoring System = Optical instrument capable of measuring the opacity of emissions is not installed in the vent or optical instrumentation does not meet the requirements of § 111.111(a)(1)(D), or the vent stream does not qualify for the exemption in § 111.111(a)(3).</p> <p>Construction Date = On or before January 31, 1972</p> <p>Effluent Flow Rate = Effluent flow rate is less than 100,000 actual cubic feet per minute.</p>
FOL603	30 TAC Chapter 111, Visible Emissions	R1111-01	<p>Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113.</p> <p>Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit.</p> <p>Opacity Monitoring System = Optical instrument capable of measuring the opacity of emissions is not installed in the vent or optical instrumentation does not meet the requirements of § 111.111(a)(1)(D), or the vent stream does not qualify for the exemption in § 111.111(a)(3).</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>exemption in § 111.111(a)(3).</p> <p>Construction Date = On or before January 31, 1972</p> <p>Effluent Flow Rate = Effluent flow rate is less than 100,000 actual cubic feet per minute.</p>
FOL604	30 TAC Chapter 111, Visible Emissions	R1111-01	<p>Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113.</p> <p>Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit.</p> <p>Opacity Monitoring System = Optical instrument capable of measuring the opacity of emissions is not installed in the vent or optical instrumentation does not meet the requirements of § 111.111(a)(1)(D), or the vent stream does not qualify for the exemption in § 111.111(a)(3).</p> <p>Construction Date = On or before January 31, 1972</p> <p>Effluent Flow Rate = Effluent flow rate is less than 100,000 actual cubic feet per minute.</p>
FOL700	30 TAC Chapter 111, Visible Emissions	R1111-01	<p>Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113.</p> <p>Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit.</p> <p>Opacity Monitoring System = Optical instrument capable of measuring the opacity of emissions is not installed in the vent or optical instrumentation does not meet the requirements of § 111.111(a)(1)(D), or the vent stream does not qualify for the exemption in § 111.111(a)(3).</p> <p>Construction Date = On or before January 31, 1972</p> <p>Effluent Flow Rate = Effluent flow rate is less than 100,000 actual cubic feet per minute.</p>
FOL710	30 TAC Chapter 111, Visible Emissions	R1111-01	<p>Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113.</p> <p>Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit.</p> <p>Opacity Monitoring System = Optical instrument capable of measuring the opacity of emissions is not installed in the vent or optical instrumentation does not meet the requirements of § 111.111(a)(1)(D), or the vent stream does not qualify for the exemption in § 111.111(a)(3).</p> <p>Construction Date = On or before January 31, 1972</p> <p>Effluent Flow Rate = Effluent flow rate is less than 100,000 actual cubic feet per minute.</p>
GRPACMAP2	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p> <p>Combined 24-Hour VOC Weight = Combined VOC weight is less than or equal to 100 pounds (45.4 kg).</p> <p>VOC Concentration = VOC concentration is greater than or equal to 612 ppmv.</p> <p>VOC Concentration/Emission Rate @ Max Operating Conditions = The VOC concentration or emission rate is less than the applicable exemption limit at maximum actual operating conditions and the alternate recordkeeping requirements of 30 TAC § 115.126(4) are being selected.</p>
GRPACMAP3	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Vapor recovery system, as defined in 30 TAC § 115.10, other than an afterburner, blast furnace combustion device, boiler, catalytic or direct flame incinerator, carbon adsorption system, chiller, flare or vapor combustor.</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p> <p>Combined 24-Hour VOC Weight = Combined VOC weight is less than or equal to 100 pounds (45.4 kg).</p> <p>VOC Concentration = VOC concentration is greater than or equal to 612 ppmv.</p> <p>VOC Concentration/Emission Rate @ Max Operating Conditions = The VOC concentration or emission rate is less than the applicable exemption limit at maximum actual operating conditions and the alternate recordkeeping requirements of 30 TAC § 115.126(4) are being selected.</p>
GRPACMAP3	30 TAC Chapter 115, Vent Gas Controls	R5121-2	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Vapor recovery system, as defined in 30 TAC § 115.10, other than an afterburner, blast furnace combustion device, boiler, catalytic or direct flame incinerator, carbon adsorption system, chiller, flare or vapor combustor.</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p> <p>Combined 24-Hour VOC Weight = Combined VOC weight is less than or equal to 100 pounds (45.4 kg).</p> <p>VOC Concentration = VOC concentration is greater than or equal to 612 ppmv.</p> <p>VOC Concentration/Emission Rate @ Max Operating Conditions = The VOC concentration or emission rate is less than the applicable exemption limit at maximum actual operating conditions and the alternate recordkeeping requirements of 30 TAC § 115.126(4) are being selected.</p>
GRPPAUPV2	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Chiller or catalytic incinerator.</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
GRPPAUPV2	40 CFR Part 63, Subpart G	63G-1	<p>Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used.</p> <p>Control Device = Catalytic incinerator.</p> <p>Overlap = Title 40 CFR Part 60, Subpart NNN</p> <p>Group 1 = The process vent meets the definition of a Group 1 process vent.</p> <p>Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118.</p> <p>Halogenated = Vent stream is not halogenated.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>By-pass Lines = The vent system contains by-pass lines that can divert the vent stream from the control device.</p> <p>Flow Indicator = A flow indicator is installed and operated at the entrance of the by-pass line.</p> <p>Performance Test = A performance test was conducted for determining compliance with a regulation promulgated by the EPA using the same methods specified in Subpart G and either no process changes have been made, or the results reliably indicate compliance.</p>
GRPPAUPV3	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Chiller or catalytic incinerator.</p> <p>Vent Type = Vent gas stream is emitted from an air oxidation synthetic organic chemical manufacturing process.</p>
GRPPAUPV3	40 CFR Part 63, Subpart G	63G-1	<p>Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used.</p> <p>Control Device = Catalytic incinerator.</p> <p>Overlap = Title 40 CFR Part 60, Subpart III</p> <p>Group 1 = The process vent meets the definition of a Group 1 process vent.</p> <p>Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118.</p> <p>Halogenated = Vent stream is not halogenated.</p> <p>By-pass Lines = The vent system contains by-pass lines that can divert the vent stream from the control device.</p> <p>Electing Control = Electing to control the process vent to the levels required in 40 CFR § 63.113(a)(2) without calculating the TRE index value</p> <p>Flow Indicator = A flow indicator is installed and operated at the entrance of the by-pass line.</p> <p>Performance Test = A performance test was conducted for determining compliance with a regulation promulgated by the EPA using the same methods specified in Subpart G and either no process changes have been made, or the results reliably indicate compliance.</p>
GRPPAUPV4	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Chiller or catalytic incinerator.</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p> <p>VOC Concentration/Emission Rate @ Max Operating Conditions = Either the VOC concentration or emission rate is greater than the applicable exemption limit at maximum actual operating conditions or the alternate recordkeeping requirements of 30 TAC § 115.126(4) are not being selected.</p>
GRPPAUPV4	40 CFR Part 63, Subpart G	63G-1	<p>Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>Control Device = Catalytic incinerator.</p> <p>Overlap = Title 40 CFR Part 63, Subpart G only</p> <p>Group 1 = The process vent meets the definition of a Group 1 process vent.</p> <p>Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118.</p> <p>Halogenated = Vent stream is not halogenated.</p> <p>By-pass Lines = The vent system contains by-pass lines that can divert the vent stream from the control device.</p> <p>Flow Indicator = A flow indicator is installed and operated at the entrance of the by-pass line.</p> <p>Performance Test = A performance test was conducted for determining compliance with a regulation promulgated by the EPA using the same methods specified in Subpart G and either no process changes have been made, or the results reliably indicate compliance.</p>
GRPVNT	30 TAC Chapter 115, HRVOC Vent Gas	R5720-1	<p>Alternative Monitoring = Not using alternative monitoring and testing methods.</p> <p>HRVOC Concentration = The vent gas stream has a HRVOC concentration less than 100 ppmv at all times.</p> <p>Max Flow Rate = The vent gas stream has a maximum potential flow rate greater than 100 dry standard cubic feet per hour (ft³/hr).</p> <p>Exempt Date = The vent gas stream is not exempt.</p> <p>Minor Modification = Not using any minor modification to the monitoring and testing methods of the rule.</p> <p>Vent Gas Stream Control = Vent gas stream is controlled by a flare.</p> <p>Process Knowledge = Testing using the specified appropriate reference methods and procedures are used to determine HRVOC emissions during emission events and scheduled startup, shutdown, and maintenance activities.</p> <p>Waived Testing = The executive director has not waived testing for identical vents.</p> <p>Testing Requirements = Process knowledge to determine maximum potential HRVOC hourly emissions for analyzer vents, stream system vents, vent gas streams with no HRVOC except during emission event or degassing safety device in lieu of testing.</p>
GRPVNT	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
GRPVNT	30 TAC Chapter 115, Vent Gas Controls	R5121-2	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
GRPVNT	30 TAC Chapter 115, Vent Gas Controls	R5121-3	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
GRPVNT2	30 TAC Chapter 115, HRVOC Vent Gas	R5720-1	<p>Alternative Monitoring = Not using alternative monitoring and testing methods.</p> <p>HRVOC Concentration = The vent gas stream has a HRVOC concentration less than 100 ppmv at all times.</p> <p>Max Flow Rate = The vent gas stream has a maximum potential flow rate greater than 100 dry standard cubic feet per hour (ft³/hr).</p> <p>Exempt Date = The vent gas stream is not exempt.</p> <p>Minor Modification = Not using any minor modification to the monitoring and testing methods of the rule.</p> <p>Vent Gas Stream Control = Vent gas stream is controlled by a flare.</p> <p>Process Knowledge = Testing using the specified appropriate reference methods and procedures are used to determine HRVOC emissions during emission events and scheduled startup, shutdown, and maintenance activities.</p> <p>Waived Testing = The executive director has not waived testing for identical vents.</p> <p>Testing Requirements = Process knowledge to determine maximum potential HRVOC hourly emissions for analyzer vents, stream system vents, vent gas streams with no HRVOC except during emission event or degassing safety device in lieu of testing.</p>
GRPVNT2	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
GRPVNT2	30 TAC Chapter 115, Vent Gas Controls	R5121-2	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
GRPVNT2	30 TAC Chapter 115, Vent Gas Controls	R5121-3	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
H1300	30 TAC Chapter 111, Visible Emissions	R1111-01	<p>Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113.</p> <p>Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit.</p> <p>Opacity Monitoring System = Optical instrument capable of measuring the opacity of emissions is not installed in the vent or optical instrumentation does not meet the requirements of § 111.111(a)(1)(D), or the vent stream does not qualify for the exemption in § 111.111(a)(3).</p> <p>Construction Date = On or before January 31, 1972</p> <p>Effluent Flow Rate = Effluent flow rate is less than 100,000 actual cubic feet per minute.</p>
HT2FLR	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
HT2FLR	30 TAC Chapter 115, Vent Gas Controls	R5121-2	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
HT2FLR	30 TAC Chapter 115, Vent Gas Controls	R5121-3	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
HT2FLR	40 CFR Part 63, Subpart FFFF	63FFFF	Emission Standard = Continuous Process Vents
HT2FLRG	30 TAC Chapter	R5121-1	Alternate Control Requirement = Alternate control is not used.

Unit ID	Regulation	Index Number	Basis of Determination*
	115, Vent Gas Controls		<p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
HT2FLRG	30 TAC Chapter 115, Vent Gas Controls	R5121-2	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
HT2FLRG	30 TAC Chapter 115, Vent Gas Controls	R5121-3	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
HT3FLR	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
HT3FLR	30 TAC Chapter 115, Vent Gas Controls	R5121-2	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
HT3FLR	30 TAC Chapter 115, Vent Gas	R5121-3	<p>Alternate Control Requirement = Alternate control is not used.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
	Controls		<p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
HT3FLRG	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
HT3FLRG	30 TAC Chapter 115, Vent Gas Controls	R5121-2	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
HT3FLRG	30 TAC Chapter 115, Vent Gas Controls	R5121-3	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
IRUFLR	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
IRUFLR	30 TAC Chapter 115, Vent Gas	R5121-2	<p>Alternate Control Requirement = Alternate control is not used.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
	Controls		<p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
IRUFLR	30 TAC Chapter 115, Vent Gas Controls	R5121-3	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
IRUFLR	40 CFR Part 63, Subpart FFFF	63FFFF	Emission Standard = Continuous Process Vents
IRUFLRG	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
IRUFLRG	30 TAC Chapter 115, Vent Gas Controls	R5121-2	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
IRUFLRG	30 TAC Chapter 115, Vent Gas Controls	R5121-3	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
LPGFL	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p> <p>Combined 24-Hour VOC Weight = Combined VOC weight is greater than 100 pounds (45.4 kg).</p> <p>VOC Concentration = VOC concentration is greater than or equal to 612 ppmv.</p>
NTFFLR	30 TAC Chapter 115, HRVOC Vent Gas	R5720-1	<p>Alternative Monitoring = Not using alternative monitoring and testing methods.</p> <p>HRVOC Concentration = The vent gas stream has a HRVOC concentration less than 100 ppmv at all times.</p> <p>Max Flow Rate = The vent gas stream has a maximum potential flow rate greater than 100 dry standard cubic feet per hour (ft³/hr).</p> <p>Exempt Date = The vent gas stream is not exempt.</p> <p>Minor Modification = Not using any minor modification to the monitoring and testing methods of the rule.</p> <p>Vent Gas Stream Control = Vent gas stream is controlled by a flare.</p> <p>Process Knowledge = Testing using the specified appropriate reference methods and procedures are used to determine HRVOC emissions during emission events and scheduled startup, shutdown, and maintenance activities.</p> <p>Waived Testing = The executive director has not waived testing for identical vents.</p> <p>Testing Requirements = Process knowledge to determine maximum potential HRVOC hourly emissions for analyzer vents, stream system vents, vent gas streams with no HRVOC except during emission event or degassing safety device in lieu of testing.</p>
NTFFLR	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
NTFFLR	30 TAC Chapter 115, Vent Gas Controls	R5121-2	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
NTFFLR	30 TAC Chapter	R5121-3	Alternate Control Requirement = Alternate control is not used.

Unit ID	Regulation	Index Number	Basis of Determination*
	115, Vent Gas Controls		<p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
NTFFLR	40 CFR Part 63, Subpart FFFF	63FFFF	Emission Standard = Continuous Process Vents
NTFFLRG	30 TAC Chapter 115, HRVOC Vent Gas	R5720-1	<p>Alternative Monitoring = Not using alternative monitoring and testing methods.</p> <p>HRVOC Concentration = The vent gas stream has a HRVOC concentration less than 100 ppmv at all times.</p> <p>Max Flow Rate = The vent gas stream has a maximum potential flow rate greater than 100 dry standard cubic feet per hour (ft³/hr).</p> <p>Exempt Date = The vent gas stream is not exempt.</p> <p>Minor Modification = Not using any minor modification to the monitoring and testing methods of the rule.</p> <p>Vent Gas Stream Control = Vent gas stream is controlled by a flare.</p> <p>Process Knowledge = Testing using the specified appropriate reference methods and procedures are used to determine HRVOC emissions during emission events and scheduled startup, shutdown, and maintenance activities.</p> <p>Waived Testing = The executive director has not waived testing for identical vents.</p> <p>Testing Requirements = Process knowledge to determine maximum potential HRVOC hourly emissions for analyzer vents, stream system vents, vent gas streams with no HRVOC except during emission event or degassing safety device in lieu of testing.</p>
NTFFLRG	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
NTFFLRG	30 TAC Chapter 115, Vent Gas Controls	R5121-2	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
NTFFLRG	30 TAC Chapter 115, Vent Gas Controls	R5121-3	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
OP2ACMAP	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Vapor recovery system, as defined in 30 TAC § 115.10, other than an afterburner, blast furnace combustion device, boiler, catalytic or direct flame incinerator, carbon adsorption system, chiller, flare or vapor combustor.</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p> <p>Combined 24-Hour VOC Weight = Combined VOC weight is greater than 100 pounds (45.4 kg).</p> <p>VOC Concentration = VOC concentration is greater than or equal to 612 ppmv.</p>
OP2DECOK	30 TAC Chapter 111, Visible Emissions	R1111-01	<p>Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113.</p> <p>Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit.</p> <p>Opacity Monitoring System = Optical instrument capable of measuring the opacity of emissions is not installed in the vent or optical instrumentation does not meet the requirements of § 111.111(a)(1)(D), or the vent stream does not qualify for the exemption in § 111.111(a)(3).</p> <p>Construction Date = On or before January 31, 1972</p> <p>Effluent Flow Rate = Effluent flow rate is less than 100,000 actual cubic feet per minute.</p>
OP2DECOK	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p> <p>Combined 24-Hour VOC Weight = Combined VOC weight is less than or equal to 100 pounds (45.4 kg).</p> <p>VOC Concentration = VOC concentration is greater than or equal to 612 ppmv.</p> <p>VOC Concentration/Emission Rate @ Max Operating Conditions = The VOC concentration or emission rate is less than the applicable exemption limit at maximum actual operating conditions and the alternate recordkeeping requirements of 30 TAC § 115.126(4) are being selected.</p>
OP2DECOK2	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>classified under the rule.</p> <p>Combined 24-Hour VOC Weight = Combined VOC weight is less than or equal to 100 pounds (45.4 kg).</p> <p>VOC Concentration = VOC concentration is greater than or equal to 612 ppmv.</p> <p>VOC Concentration/Emission Rate @ Max Operating Conditions = The VOC concentration or emission rate is less than the applicable exemption limit at maximum actual operating conditions and the alternate recordkeeping requirements of 30 TAC § 115.126(4) are being selected.</p>
OP2DIST	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
OP2DIST	30 TAC Chapter 115, Vent Gas Controls	R5121-2	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
OP2DIST	30 TAC Chapter 115, Vent Gas Controls	R5121-3	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
SITE3FL	30 TAC Chapter 115, HRVOC Vent Gas	R5720-1	<p>Alternative Monitoring = Not using alternative monitoring and testing methods.</p> <p>HRVOC Concentration = The vent gas stream has a HRVOC concentration less than 100 ppmv at all times.</p> <p>Max Flow Rate = The vent gas stream has a maximum potential flow rate greater than 100 dry standard cubic feet per hour (ft³/hr).</p> <p>Exempt Date = The vent gas stream is not exempt.</p> <p>Minor Modification = Not using any minor modification to the monitoring and testing methods of the rule.</p> <p>Vent Gas Stream Control = Vent gas stream is controlled by a flare.</p> <p>Process Knowledge = Testing using the specified appropriate reference methods and procedures are used to determine HRVOC emissions during emission events and scheduled startup, shutdown, and maintenance activities.</p> <p>Waived Testing = The executive director has not waived testing for identical vents.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			Testing Requirements = Process knowledge to determine maximum potential HRVOC hourly emissions for analyzer vents, stream system vents, vent gas streams with no HRVOC except during emission event or degassing safety device in lieu of testing.
SITE3FL	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p> <p>Combined 24-Hour VOC Weight = Combined VOC weight is greater than 100 pounds (45.4 kg).</p> <p>VOC Concentration = VOC concentration is greater than or equal to 612 ppmv.</p>
V337	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
V337	40 CFR Part 63, Subpart G	63G-1	<p>Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used.</p> <p>Control Device = Flare</p> <p>Overlap = Title 40 CFR Part 63, Subpart G only</p> <p>Group 1 = The process vent meets the definition of a Group 1 process vent.</p> <p>Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118.</p> <p>Halogenated = Vent stream is not halogenated.</p> <p>By-pass Lines = The vent system contains by-pass lines that can divert the vent stream from the control device.</p> <p>Flow Indicator = By-pass line valve is secured with a car-seal or lock-and-key type configuration.</p> <p>Performance Test = A performance test was conducted for determining compliance with a regulation promulgated by the EPA using the same methods specified in Subpart G and either no process changes have been made, or the results reliably indicate compliance.</p>
V392	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>classified under the rule.</p> <p>Combined 24-Hour VOC Weight = Combined VOC weight is less than or equal to 100 pounds (45.4 kg).</p> <p>VOC Concentration = VOC concentration is less than 612 ppmv.</p> <p>VOC Concentration/Emission Rate @ Max Operating Conditions = Either the VOC concentration or emission rate is greater than the applicable exemption limit at maximum actual operating conditions or the alternate recordkeeping requirements of 30 TAC § 115.126(4) are not being selected.</p>
V392	40 CFR Part 63, Subpart G	63G-1	<p>Control Device = No recovery device.</p> <p>Overlap = Title 40 CFR Part 63, Subpart G only</p> <p>Group 1 = The process vent is a Group 2 process vent.</p> <p>Halogenated = Vent stream is not halogenated.</p> <p>Regulation = Owners or operator is required to comply only with the requirements of 40 CFR Part 63, Subpart G.</p> <p>HAP Concentration = HAP concentration is not needed to determine applicability.</p> <p>Flow Rate = Flow rate is not needed to determine applicability.</p> <p>Electing Control = Not electing to control the process vent to the levels required in 40 CFR § 63.113(a)(1) or (a)(2).</p> <p>Performance Test = No previous performance test was conducted.</p> <p>MACT TRE Index Value = TRE index value is greater than 4.0 as calculated using the procedures of 40 CFR § 63.115(d).</p>
V8204	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p> <p>Combined 24-Hour VOC Weight = Combined VOC weight is less than or equal to 100 pounds (45.4 kg).</p> <p>VOC Concentration = VOC concentration is less than 612 ppmv.</p> <p>VOC Concentration/Emission Rate @ Max Operating Conditions = Either the VOC concentration or emission rate is greater than the applicable exemption limit at maximum actual operating conditions or the alternate recordkeeping requirements of 30 TAC § 115.126(4) are not being selected.</p>
V8204	40 CFR Part 63, Subpart G	63G-1	<p>Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used.</p> <p>Control Device = No recovery device.</p> <p>Overlap = Title 40 CFR Part 63, Subpart G only</p> <p>Group 1 = The process vent is a Group 2 process vent.</p> <p>Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118.</p> <p>Halogenated = Vent stream is not halogenated.</p> <p>HAP Concentration = HAP concentration is not needed to determine applicability.</p> <p>By-pass Lines = The vent system does not contain by-pass lines that can divert the vent stream from the control device.</p> <p>Flow Rate = Flow rate is not needed to determine applicability.</p> <p>Electing Control = Not electing to control the process vent to the levels required in 40 CFR § 63.113(a)(1) or (a)(2).</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			MACT TRE Index Value = TRE index value is greater than 4.0 as calculated using the procedures of 40 CFR § 63.115(d).
V8217	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p> <p>Combined 24-Hour VOC Weight = Combined VOC weight is less than or equal to 100 pounds (45.4 kg).</p> <p>VOC Concentration = VOC concentration is less than 612 ppmv.</p> <p>VOC Concentration/Emission Rate @ Max Operating Conditions = The VOC concentration or emission rate is less than the applicable exemption limit at maximum actual operating conditions and the alternate recordkeeping requirements of 30 TAC § 115.126(4) are being selected.</p>
V8321	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p> <p>Combined 24-Hour VOC Weight = Combined VOC weight is less than or equal to 100 pounds (45.4 kg).</p> <p>VOC Concentration = VOC concentration is less than 612 ppmv.</p> <p>VOC Concentration/Emission Rate @ Max Operating Conditions = The VOC concentration or emission rate is less than the applicable exemption limit at maximum actual operating conditions and the alternate recordkeeping requirements of 30 TAC § 115.126(4) are being selected.</p>
V8321	40 CFR Part 63, Subpart G	63G-1	<p>Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used.</p> <p>Control Device = No recovery device.</p> <p>Overlap = Title 40 CFR Part 63, Subpart G only</p> <p>Group 1 = The process vent is a Group 2 process vent.</p> <p>Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118.</p> <p>Halogenated = Vent stream is not halogenated.</p> <p>HAP Concentration = HAP concentration is not needed to determine applicability.</p> <p>By-pass Lines = The vent system does not contain by-pass lines that can divert the vent stream from the control device.</p> <p>Flow Rate = Flow rate is less than 0.005 scm/min.</p> <p>Electing Control = Not electing to control the process vent to the levels required in 40 CFR § 63.113(a)(1) or (a)(2).</p>
V8360	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Chiller or catalytic incinerator.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.
V8360	30 TAC Chapter 115, Vent Gas Controls	R5121-2	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Vapor recovery system, as defined in 30 TAC § 115.10, other than an afterburner, blast furnace combustion device, boiler, catalytic or direct flame incinerator, carbon adsorption system, chiller, flare or vapor combustor.</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
V8360	40 CFR Part 63, Subpart G	63G-1	<p>Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used.</p> <p>Control Device = Catalytic incinerator.</p> <p>Overlap = Title 40 CFR Part 60, Subpart NNN</p> <p>Group 1 = The process vent is a Group 2 process vent.</p> <p>Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118.</p> <p>Halogenated = Vent stream is not halogenated.</p> <p>Regulation = Owner or operator is electing to comply with the associated monitoring, testing, recordkeeping, and reporting requirements of 40 CFR Part 60, Subpart III, supporting the control requirements of 40 CFR § 60.662.</p> <p>HAP Concentration = HAP concentration is not needed to determine applicability.</p> <p>By-pass Lines = The vent system contains by-pass lines that can divert the vent stream from the control device.</p> <p>Flow Rate = Flow rate is not needed to determine applicability.</p> <p>Electing Control = Not electing to control the process vent to the levels required in 40 CFR § 63.113(a)(1) or (a)(2).</p> <p>Flow Indicator = A flow indicator is installed and operated at the entrance of the by-pass line.</p> <p>NSPS TRE Index Value = TRE index value is greater than 8 as calculated using the appropriate equation from 40 CFR Part 60, Subparts III, NNN or RRR.</p> <p>Performance Test = A performance test was conducted for determining compliance with a regulation promulgated by the EPA using the same methods specified in Subpart G and either no process changes have been made, or the results reliably indicate compliance.</p> <p>MACT TRE Index Value = TRE index value is greater than 4.0 as calculated using the procedures of 40 CFR § 63.115(d).</p>
V8360	40 CFR Part 63, Subpart G	63G-2	<p>Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used.</p> <p>Control Device = Boiler or process heater with a design heat input capacity of greater than 44 MW.</p> <p>Overlap = Title 40 CFR Part 60, Subpart NNN</p> <p>Group 1 = The process vent is a Group 2 process vent.</p> <p>Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118.</p> <p>Halogenated = Vent stream is not halogenated.</p> <p>Regulation = Owner or operator is electing to comply with the associated monitoring, testing, recordkeeping, and reporting requirements of 40 CFR Part 60, Subpart III, supporting the control requirements of 40 CFR § 60.662.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>HAP Concentration = HAP concentration is not needed to determine applicability.</p> <p>By-pass Lines = The vent system does not contain by-pass lines that can divert the vent stream from the control device.</p> <p>Flow Rate = Flow rate is not needed to determine applicability.</p> <p>Electing Control = Not electing to control the process vent to the levels required in 40 CFR § 63.113(a)(1) or (a)(2).</p> <p>NSPS TRE Index Value = TRE index value is greater than 8 as calculated using the appropriate equation from 40 CFR Part 60, Subparts III, NNN or RRR.</p> <p>Performance Test = No previous performance test was conducted.</p> <p>MACT TRE Index Value = TRE index value is greater than 4.0 as calculated using the procedures of 40 CFR § 63.115(d).</p>
V87923	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
V87923	40 CFR Part 63, Subpart G	63G-1	<p>Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used.</p> <p>Control Device = Flare</p> <p>Overlap = Title 40 CFR Part 60, Subpart RRR</p> <p>Group 1 = The process vent meets the definition of a Group 1 process vent.</p> <p>Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118.</p> <p>Halogenated = Vent stream is not halogenated.</p> <p>By-pass Lines = The vent system does not contain by-pass lines that can divert the vent stream from the control device.</p>
V87923	40 CFR Part 63, Subpart G	63G-2	<p>Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used.</p> <p>Control Device = Flare</p> <p>Overlap = Title 40 CFR Part 60, Subpart NNN</p> <p>Group 1 = The process vent meets the definition of a Group 1 process vent.</p> <p>Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118.</p> <p>Halogenated = Vent stream is not halogenated.</p> <p>By-pass Lines = The vent system does not contain by-pass lines that can divert the vent stream from the control device.</p>
VP31142	30 TAC Chapter 111, Visible Emissions	R1111-01	<p>Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113.</p> <p>Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit.</p> <p>Opacity Monitoring System = Optical instrument capable of measuring the opacity of emissions is not installed in the vent or optical instrumentation does not meet the requirements of § 111.111(a)(1)(D), or the vent stream does not qualify for the exemption in § 111.111(a)(3).</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>Construction Date = On or before January 31, 1972</p> <p>Effluent Flow Rate = Effluent flow rate is less than 100,000 actual cubic feet per minute.</p>
VP31142	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p> <p>Combined 24-Hour VOC Weight = Combined VOC weight is less than or equal to 100 pounds (45.4 kg).</p> <p>VOC Concentration = VOC concentration is greater than or equal to 612 ppmv.</p> <p>VOC Concentration/Emission Rate @ Max Operating Conditions = The VOC concentration or emission rate is less than the applicable exemption limit at maximum actual operating conditions and the alternate recordkeeping requirements of 30 TAC § 115.126(4) are being selected.</p>
VUT109	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Vapor recovery system, as defined in 30 TAC § 115.10, other than an afterburner, blast furnace combustion device, boiler, catalytic or direct flame incinerator, carbon adsorption system, chiller, flare or vapor combustor.</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
VUT109	30 TAC Chapter 115, Vent Gas Controls	R5121-2	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
VUT109	30 TAC Chapter 115, Vent Gas Controls	R5121-3	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
VUT109	30 TAC Chapter 115, Vent Gas Controls	R5121-4	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
X8529A	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
X8529A	40 CFR Part 63, Subpart G	63G-1	<p>Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used.</p> <p>Control Device = Flare</p> <p>Overlap = Title 40 CFR Part 63, Subpart G only</p> <p>Group 1 = The process vent meets the definition of a Group 1 process vent.</p> <p>Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118.</p> <p>Halogenated = Vent stream is not halogenated.</p> <p>By-pass Lines = The vent system contains by-pass lines that can divert the vent stream from the control device.</p> <p>Flow Indicator = By-pass line valve is secured with a car-seal or lock-and-key type configuration.</p> <p>Performance Test = A performance test was conducted for determining compliance with a regulation promulgated by the EPA using the same methods specified in Subpart G and either no process changes have been made, or the results reliably indicate compliance.</p>
X8529B	30 TAC Chapter 115, Vent Gas Controls	R5121-1	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10.</p>
X8529B	40 CFR Part 63, Subpart G	63G-1	<p>Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used.</p> <p>Control Device = Flare</p> <p>Overlap = Title 40 CFR Part 63, Subpart G only</p> <p>Group 1 = The process vent meets the definition of a Group 1 process vent.</p> <p>Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>Halogenated = Vent stream is not halogenated.</p> <p>By-pass Lines = The vent system contains by-pass lines that can divert the vent stream from the control device.</p> <p>Flow Indicator = By-pass line valve is secured with a car-seal or lock-and-key type configuration.</p> <p>Performance Test = A performance test was conducted for determining compliance with a regulation promulgated by the EPA using the same methods specified in Subpart G and either no process changes have been made, or the results reliably indicate compliance.</p>
IRUFLR	40 CFR Part 60, Subpart NNN	60NNN-1	<p>Subpart NNN Chemicals = The distillation unit produces any chemical listed in 40 CFR § 60.667 as a product, co-product, by-product, or intermediate.</p> <p>Total Resource Effectiveness = TRE index value less than 8.0 not from a halogenated vent stream.</p> <p>Construction/Modification Date = After December 30, 1983.</p> <p>TOC Reduction = Compliance is achieved by reducing total organic compound emissions (less methane and ethane) by 98 weight-percent or to a concentration of 20 ppmv dry basis corrected to 3 percent oxygen using a VOC emissions non-flare combustion control device.</p> <p>Subpart NNN Control Device = Flare.</p> <p>Vent Type = Two or more distillation units discharging vent stream into a common vapor recovery system.</p> <p>Distillation Unit Type = Does not qualify for any exemption under § 60.660(c)(1)-(3).</p> <p>Total Design Capacity = 1 gigagram per year or greater.</p> <p>Vent Stream Flow Rate = Flow rate greater than or equal to 0.008 scm/min.</p>
IRUFLR	40 CFR Part 60, Subpart NNN	60NNN-2	<p>Subpart NNN Chemicals = The distillation unit produces any chemical listed in 40 CFR § 60.667 as a product, co-product, by-product, or intermediate.</p> <p>Total Resource Effectiveness = TRE index value less than 8.0 not from a halogenated vent stream.</p> <p>Construction/Modification Date = After December 30, 1983.</p> <p>TOC Reduction = Compliance is achieved by reducing total organic compound emissions (less methane and ethane) by 98 weight-percent or to a concentration of 20 ppmv dry basis corrected to 3 percent oxygen using a VOC emissions non-flare combustion control device.</p> <p>Subpart NNN Control Device = Flare.</p> <p>Vent Type = Two or more distillation units discharging vent stream into a common vapor recovery system.</p> <p>Distillation Unit Type = Does not qualify for any exemption under § 60.660(c)(1)-(3).</p> <p>Total Design Capacity = 1 gigagram per year or greater.</p> <p>Vent Stream Flow Rate = Flow rate greater than or equal to 0.008 scm/min.</p>
IRUFLR	40 CFR Part 60, Subpart NNN	60NNN-3	<p>Subpart NNN Chemicals = The distillation unit produces any chemical listed in 40 CFR § 60.667 as a product, co-product, by-product, or intermediate.</p> <p>Total Resource Effectiveness = TRE index value less than 8.0 not from a halogenated vent stream.</p> <p>Construction/Modification Date = After December 30, 1983.</p> <p>TOC Reduction = Compliance is achieved by reducing total organic compound emissions (less methane and ethane) by 98 weight-percent or to a concentration of 20 ppmv dry basis corrected to 3 percent oxygen using a VOC emissions non-flare combustion control device.</p> <p>Subpart NNN Control Device = Flare.</p> <p>Vent Type = Two or more distillation units discharging vent stream into a common vapor recovery system.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>Distillation Unit Type = Does not qualify for any exemption under § 60.660(c)(1)-(3).</p> <p>Total Design Capacity = 1 gigagram per year or greater.</p> <p>Vent Stream Flow Rate = Flow rate greater than or equal to 0.008 scm/min.</p>
IRUFLRG	40 CFR Part 60, Subpart NNN	60NNN-1	<p>Subpart NNN Chemicals = The distillation unit produces any chemical listed in 40 CFR § 60.667 as a product, co-product, by-product, or intermediate.</p> <p>Total Resource Effectiveness = TRE index value less than 8.0 not from a halogenated vent stream.</p> <p>Construction/Modification Date = After December 30, 1983.</p> <p>TOC Reduction = Compliance is achieved by reducing total organic compound emissions (less methane and ethane) by 98 weight-percent or to a concentration of 20 ppmv dry basis corrected to 3 percent oxygen using a VOC emissions non-flare combustion control device.</p> <p>Subpart NNN Control Device = Flare.</p> <p>Vent Type = Two or more distillation units discharging vent stream into a common vapor recovery system.</p> <p>Distillation Unit Type = Does not qualify for any exemption under § 60.660(c)(1)-(3).</p> <p>Total Design Capacity = 1 gigagram per year or greater.</p> <p>Vent Stream Flow Rate = Flow rate greater than or equal to 0.008 scm/min.</p>
IRUFLRG	40 CFR Part 60, Subpart NNN	60NNN-2	<p>Subpart NNN Chemicals = The distillation unit produces any chemical listed in 40 CFR § 60.667 as a product, co-product, by-product, or intermediate.</p> <p>Total Resource Effectiveness = TRE index value less than 8.0 not from a halogenated vent stream.</p> <p>Construction/Modification Date = After December 30, 1983.</p> <p>TOC Reduction = Compliance is achieved by reducing total organic compound emissions (less methane and ethane) by 98 weight-percent or to a concentration of 20 ppmv dry basis corrected to 3 percent oxygen using a VOC emissions non-flare combustion control device.</p> <p>Subpart NNN Control Device = Flare.</p> <p>Vent Type = Two or more distillation units discharging vent stream into a common vapor recovery system.</p> <p>Distillation Unit Type = Does not qualify for any exemption under § 60.660(c)(1)-(3).</p> <p>Total Design Capacity = 1 gigagram per year or greater.</p> <p>Vent Stream Flow Rate = Flow rate greater than or equal to 0.008 scm/min.</p>
IRUFLRG	40 CFR Part 60, Subpart NNN	60NNN-3	<p>Subpart NNN Chemicals = The distillation unit produces any chemical listed in 40 CFR § 60.667 as a product, co-product, by-product, or intermediate.</p> <p>Total Resource Effectiveness = TRE index value less than 8.0 not from a halogenated vent stream.</p> <p>Construction/Modification Date = After December 30, 1983.</p> <p>TOC Reduction = Compliance is achieved by reducing total organic compound emissions (less methane and ethane) by 98 weight-percent or to a concentration of 20 ppmv dry basis corrected to 3 percent oxygen using a VOC emissions non-flare combustion control device.</p> <p>Subpart NNN Control Device = Flare.</p> <p>Vent Type = Two or more distillation units discharging vent stream into a common vapor recovery system.</p> <p>Distillation Unit Type = Does not qualify for any exemption under § 60.660(c)(1)-(3).</p> <p>Total Design Capacity = 1 gigagram per year or greater.</p> <p>Vent Stream Flow Rate = Flow rate greater than or equal to 0.008 scm/min.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
OP2DIST	40 CFR Part 60, Subpart NNN	60NNN-1	<p>Subpart NNN Chemicals = The distillation unit produces any chemical listed in 40 CFR § 60.667 as a product, co-product, by-product, or intermediate.</p> <p>Total Resource Effectiveness = TRE index value less than 8.0 not from a halogenated vent stream.</p> <p>Construction/Modification Date = After December 30, 1983.</p> <p>TOC Reduction = Compliance is achieved by reducing total organic compound emissions (less methane and ethane) by 98 weight-percent or to a concentration of 20 ppmv dry basis corrected to 3 percent oxygen using a VOC emissions non-flare combustion control device.</p> <p>Subpart NNN Control Device = Boiler or process heater design heat input capacity greater than or equal to 44 MW (150 MMBtu/hr).</p> <p>Vent Type = Two or more distillation units discharging vent stream into a common vapor recovery system.</p> <p>Distillation Unit Type = Does not qualify for any exemption under § 60.660(c)(1)-(3).</p> <p>Total Design Capacity = 1 gigagram per year or greater.</p> <p>Vent Stream Flow Rate = Flow rate greater than or equal to 0.008 scm/min.</p>
A1304	30 TAC Chapter 115, Industrial Wastewater	R5147	<p>Petroleum Refinery = The affected source category is not a petroleum refinery.</p> <p>Wastewater Component Type = A wastewater component that is exempted from the control requirements of 30 TAC § 115.142 because it handles only exempted wastewater streams under 30 TAC § 115.147(2).</p> <p>Alternate Control Requirement = An alternate control requirement (ACR) or exemption criteria in accordance with 30 TAC § 115.910 is not used.</p> <p>90% Overall Control Option = The unit is complying with the control requirements of 30 TAC § 115.142.</p> <p>Safety Hazard Exemption = No safety hazard exemption has been requested or none has been approved.</p>
A13113	30 TAC Chapter 115, Industrial Wastewater	R5147	<p>Petroleum Refinery = The affected source category is not a petroleum refinery.</p> <p>Wastewater Component Type = A wastewater component that is exempted from the control requirements of 30 TAC § 115.142 because it handles only exempted wastewater streams under 30 TAC § 115.147(2).</p> <p>Alternate Control Requirement = An alternate control requirement (ACR) or exemption criteria in accordance with 30 TAC § 115.910 is not used.</p> <p>90% Overall Control Option = The unit is complying with the control requirements of 30 TAC § 115.142.</p> <p>Safety Hazard Exemption = No safety hazard exemption has been requested or none has been approved.</p>
A1315	30 TAC Chapter 115, Industrial Wastewater	R5147	<p>Petroleum Refinery = The affected source category is not a petroleum refinery.</p> <p>Wastewater Component Type = A wastewater component that is exempted from the control requirements of 30 TAC § 115.142 because it handles only exempted wastewater streams under 30 TAC § 115.147(2).</p> <p>Alternate Control Requirement = An alternate control requirement (ACR) or exemption criteria in accordance with 30 TAC § 115.910 is not used.</p> <p>90% Overall Control Option = The unit is complying with the control requirements of 30 TAC § 115.142.</p> <p>Safety Hazard Exemption = No safety hazard exemption has been requested or none has been approved.</p>
DISTRBOX	30 TAC Chapter 115, Industrial Wastewater	R5147	<p>Petroleum Refinery = The affected source category is not a petroleum refinery.</p> <p>Wastewater Component Type = A wastewater component that is exempted from the control requirements of 30 TAC § 115.142 because it handles only exempted wastewater streams under 30 TAC § 115.147(2).</p> <p>Alternate Control Requirement = An alternate control requirement (ACR) or exemption criteria in accordance with 30 TAC § 115.910 is not used.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			90% Overall Control Option = The unit is complying with the control requirements of 30 TAC § 115.142. Safety Hazard Exemption = No safety hazard exemption has been requested or none has been approved.
EAERAT	30 TAC Chapter 115, Industrial Wastewater	R5140-1	Petroleum Refinery = The affected source category is not a petroleum refinery. Wastewater Component Type = A properly operated biotreatment unit. Alternate Control Requirement = An alternate control requirement (ACR) or exemption criteria in accordance with 30 TAC § 115.910 is not used. 90% Overall Control Option = The unit is complying with the control requirements of 30 TAC § 115.142. Safety Hazard Exemption = No safety hazard exemption has been requested or none has been approved.
GRPWW	30 TAC Chapter 115, Industrial Wastewater	R5140-1	Petroleum Refinery = The affected source category is not a petroleum refinery. Wastewater Component Type = A properly operated biotreatment unit. Alternate Control Requirement = An alternate control requirement (ACR) or exemption criteria in accordance with 30 TAC § 115.910 is not used. 90% Overall Control Option = The unit is complying with the control requirements of 30 TAC § 115.142. Safety Hazard Exemption = No safety hazard exemption has been requested or none has been approved.
MAERAT	30 TAC Chapter 115, Industrial Wastewater	R5140-1	Petroleum Refinery = The affected source category is not a petroleum refinery. Wastewater Component Type = A properly operated biotreatment unit. Alternate Control Requirement = An alternate control requirement (ACR) or exemption criteria in accordance with 30 TAC § 115.910 is not used. 90% Overall Control Option = The unit is complying with the control requirements of 30 TAC § 115.142. Safety Hazard Exemption = No safety hazard exemption has been requested or none has been approved.
NEUT1	30 TAC Chapter 115, Industrial Wastewater	R5147	Petroleum Refinery = The affected source category is not a petroleum refinery. Wastewater Component Type = A wastewater component that is exempted from the control requirements of 30 TAC § 115.142 because it handles only exempted wastewater streams under 30 TAC § 115.147(2). Alternate Control Requirement = An alternate control requirement (ACR) or exemption criteria in accordance with 30 TAC § 115.910 is not used. 90% Overall Control Option = The unit is complying with the control requirements of 30 TAC § 115.142. Safety Hazard Exemption = No safety hazard exemption has been requested or none has been approved.
NEUT2	30 TAC Chapter 115, Industrial Wastewater	R5147	Petroleum Refinery = The affected source category is not a petroleum refinery. Wastewater Component Type = A wastewater component that is exempted from the control requirements of 30 TAC § 115.142 because it handles only exempted wastewater streams under 30 TAC § 115.147(2). Alternate Control Requirement = An alternate control requirement (ACR) or exemption criteria in accordance with 30 TAC § 115.910 is not used. 90% Overall Control Option = The unit is complying with the control requirements of 30 TAC § 115.142. Safety Hazard Exemption = No safety hazard exemption has been requested or none has been approved.
NEUT3	30 TAC Chapter 115, Industrial Wastewater	R5147	Petroleum Refinery = The affected source category is not a petroleum refinery. Wastewater Component Type = A wastewater component that is exempted from the control requirements of 30 TAC § 115.142 because it handles only exempted wastewater streams under 30 TAC § 115.147(2). Alternate Control Requirement = An alternate control requirement (ACR) or exemption criteria in accordance with 30 TAC §

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>115.910 is not used.</p> <p>90% Overall Control Option = The unit is complying with the control requirements of 30 TAC § 115.142.</p> <p>Safety Hazard Exemption = No safety hazard exemption has been requested or none has been approved.</p>
NEUT4	30 TAC Chapter 115, Industrial Wastewater	R5147	<p>Petroleum Refinery = The affected source category is not a petroleum refinery.</p> <p>Wastewater Component Type = A wastewater component that is exempted from the control requirements of 30 TAC § 115.142 because it handles only exempted wastewater streams under 30 TAC § 115.147(2).</p> <p>Alternate Control Requirement = An alternate control requirement (ACR) or exemption criteria in accordance with 30 TAC § 115.910 is not used.</p> <p>90% Overall Control Option = The unit is complying with the control requirements of 30 TAC § 115.142.</p> <p>Safety Hazard Exemption = No safety hazard exemption has been requested or none has been approved.</p>
P1309S	30 TAC Chapter 115, Industrial Wastewater	R5147	<p>Petroleum Refinery = The affected source category is not a petroleum refinery.</p> <p>Wastewater Component Type = A wastewater component that is exempted from the control requirements of 30 TAC § 115.142 because it handles only exempted wastewater streams under 30 TAC § 115.147(2).</p> <p>Alternate Control Requirement = An alternate control requirement (ACR) or exemption criteria in accordance with 30 TAC § 115.910 is not used.</p> <p>90% Overall Control Option = The unit is complying with the control requirements of 30 TAC § 115.142.</p> <p>Safety Hazard Exemption = No safety hazard exemption has been requested or none has been approved.</p>
S13141	30 TAC Chapter 115, Industrial Wastewater	R5147	<p>Wastewater Component Type = A wastewater component that is exempted from the control requirements of 30 TAC § 115.142 because it handles only exempted wastewater streams under 30 TAC § 115.147(2).</p> <p>Alternate Control Requirement = An alternate control requirement (ACR) or exemption criteria in accordance with 30 TAC § 115.910 is not used.</p> <p>90% Overall Control Option = The unit is complying with the control requirements of 30 TAC § 115.142.</p> <p>Safety Hazard Exemption = No safety hazard exemption has been requested or none has been approved.</p>
S13142	30 TAC Chapter 115, Industrial Wastewater	R5147	<p>Petroleum Refinery = The affected source category is not a petroleum refinery.</p> <p>Wastewater Component Type = A wastewater component that is exempted from the control requirements of 30 TAC § 115.142 because it handles only exempted wastewater streams under 30 TAC § 115.147(2).</p> <p>Alternate Control Requirement = An alternate control requirement (ACR) or exemption criteria in accordance with 30 TAC § 115.910 is not used.</p> <p>90% Overall Control Option = The unit is complying with the control requirements of 30 TAC § 115.142.</p> <p>Safety Hazard Exemption = No safety hazard exemption has been requested or none has been approved.</p>
S13143	30 TAC Chapter 115, Industrial Wastewater	R5147	<p>Petroleum Refinery = The affected source category is not a petroleum refinery.</p> <p>Wastewater Component Type = A wastewater component that is exempted from the control requirements of 30 TAC § 115.142 because it handles only exempted wastewater streams under 30 TAC § 115.147(2).</p> <p>Alternate Control Requirement = An alternate control requirement (ACR) or exemption criteria in accordance with 30 TAC § 115.910 is not used.</p> <p>90% Overall Control Option = The unit is complying with the control requirements of 30 TAC § 115.142.</p> <p>Safety Hazard Exemption = No safety hazard exemption has been requested or none has been approved.</p>
SETENT	30 TAC Chapter 115, Industrial	R5147	<p>Petroleum Refinery = The affected source category is not a petroleum refinery.</p> <p>Wastewater Component Type = A wastewater component that is exempted from the control requirements of 30 TAC</p>

Unit ID	Regulation	Index Number	Basis of Determination*
	Wastewater		<p>§ 115.142 because it handles only exempted wastewater streams under 30 TAC § 115.147(2).</p> <p>Alternate Control Requirement = An alternate control requirement (ACR) or exemption criteria in accordance with 30 TAC § 115.910 is not used.</p> <p>90% Overall Control Option = The unit is complying with the control requirements of 30 TAC § 115.142.</p> <p>Safety Hazard Exemption = No safety hazard exemption has been requested or none has been approved.</p>
T1301	30 TAC Chapter 115, Industrial Wastewater	R5147	<p>Petroleum Refinery = The affected source category is not a petroleum refinery.</p> <p>Wastewater Component Type = A wastewater component that is exempted from the control requirements of 30 TAC § 115.142 because it handles only exempted wastewater streams under 30 TAC § 115.147(2).</p> <p>Alternate Control Requirement = An alternate control requirement (ACR) or exemption criteria in accordance with 30 TAC § 115.910 is not used.</p> <p>90% Overall Control Option = The unit is complying with the control requirements of 30 TAC § 115.142.</p> <p>Safety Hazard Exemption = No safety hazard exemption has been requested or none has been approved.</p>
T13145	30 TAC Chapter 115, Industrial Wastewater	R5147	<p>Petroleum Refinery = The affected source category is not a petroleum refinery.</p> <p>Wastewater Component Type = A wastewater component that is exempted from the control requirements of 30 TAC § 115.142 because it handles only exempted wastewater streams under 30 TAC § 115.147(2).</p> <p>Alternate Control Requirement = An alternate control requirement (ACR) or exemption criteria in accordance with 30 TAC § 115.910 is not used.</p> <p>90% Overall Control Option = The unit is complying with the control requirements of 30 TAC § 115.142.</p> <p>Safety Hazard Exemption = No safety hazard exemption has been requested or none has been approved.</p>
T1320	30 TAC Chapter 115, Industrial Wastewater	R5147	<p>Petroleum Refinery = The affected source category is not a petroleum refinery.</p> <p>Wastewater Component Type = A wastewater component that is exempted from the control requirements of 30 TAC § 115.142 because it handles only exempted wastewater streams under 30 TAC § 115.147(2).</p> <p>Alternate Control Requirement = An alternate control requirement (ACR) or exemption criteria in accordance with 30 TAC § 115.910 is not used.</p> <p>90% Overall Control Option = The unit is complying with the control requirements of 30 TAC § 115.142.</p> <p>Safety Hazard Exemption = No safety hazard exemption has been requested or none has been approved.</p>
T19054	30 TAC Chapter 115, Industrial Wastewater	R5147	<p>Petroleum Refinery = The affected source category is not a petroleum refinery.</p> <p>Wastewater Component Type = A wastewater component that is exempted from the control requirements of 30 TAC § 115.142 because it handles only exempted wastewater streams under 30 TAC § 115.147(2).</p> <p>Alternate Control Requirement = An alternate control requirement (ACR) or exemption criteria in accordance with 30 TAC § 115.910 is not used.</p> <p>90% Overall Control Option = The unit is complying with the control requirements of 30 TAC § 115.142.</p> <p>Safety Hazard Exemption = No safety hazard exemption has been requested or none has been approved.</p>
T3272	30 TAC Chapter 115, Industrial Wastewater	R5147	<p>Petroleum Refinery = The affected source category is not a petroleum refinery.</p> <p>Wastewater Component Type = A wastewater component that is exempted from the control requirements of 30 TAC § 115.142 because it handles only exempted wastewater streams under 30 TAC § 115.147(2).</p> <p>Alternate Control Requirement = An alternate control requirement (ACR) or exemption criteria in accordance with 30 TAC § 115.910 is not used.</p> <p>90% Overall Control Option = The unit is complying with the control requirements of 30 TAC § 115.142.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			Safety Hazard Exemption = No safety hazard exemption has been requested or none has been approved.
WAERAT	30 TAC Chapter 115, Industrial Wastewater	R5140-1	<p>Petroleum Refinery = The affected source category is not a petroleum refinery.</p> <p>Wastewater Component Type = A properly operated biotreatment unit.</p> <p>Alternate Control Requirement = An alternate control requirement (ACR) or exemption criteria in accordance with 30 TAC § 115.910 is not used.</p> <p>90% Overall Control Option = The unit is complying with the control requirements of 30 TAC § 115.142.</p> <p>Safety Hazard Exemption = No safety hazard exemption has been requested or none has been approved.</p>
H87002	30 TAC Chapter 117, Subchapter B	R7300-1	<p>Maximum Rated Capacity = MRC is less than 40 MMBtu/hr</p> <p>CO Emission Limitation = Complying with 30 TAC § 117.310(c)(1)</p> <p>CO Monitoring System = Continuous emissions monitoring system complying with 30 TAC § 117.8100(a)(1)</p> <p>NH3 Emission Limitation = Complying with 30 TAC § 117.310(c)(2)</p>
H9200	30 TAC Chapter 117, Subchapter B	R7300-1	<p>Maximum Rated Capacity = MRC is less than 40 MMBtu/hr</p> <p>CO Emission Limitation = Complying with 30 TAC § 117.310(c)(1)</p> <p>CO Monitoring System = Continuous emissions monitoring system complying with 30 TAC § 117.8100(a)(1)</p> <p>NH3 Monitoring = Continuous emissions monitoring system</p>
OP2ACMAP	40 CFR Part 60, Subpart RRR	60RRR-1	<p>Chemicals Listed in 40 CFR § 60.707 = The affected facility is part of a process unit that produces chemicals listed in 40 CFR § 60.707 as a product, co-product, by product, or intermediate.</p> <p>Total Design Capacity = Total design capacity is 1 gigagram per year (1,100 tons per year) or greater.</p> <p>Bypass Line = There is a bypass line valve that could divert the vent stream around the control device and directly to the atmosphere.</p> <p>Construction/Modification Date = After June 29, 1990.</p> <p>Vent Stream Flow Rate = Vent stream flow rate is 0.011 scm/min or greater, or value is not measured.</p> <p>Affected Facility Type = Combination of two or more reactor processes and the common recovery system into which their vent streams are discharged.</p> <p>Bypass Line Valve Secured = The bypass line valve is monitored with a flow indicator.</p> <p>TOC Exemption = No TOC concentration exemption.</p> <p>Control Device = Boiler or process heater with design heat input of 44 MW (150MMBTU/hr) or greater.</p> <p>Subject to Title 40 CFR Part 60, Subpart DDD = The reactor process is not subject to the provisions of Title 40 CFR Part 60, Subpart DDD.</p> <p>Subject to Title 40 CFR Part 60, Subpart NNN = The vent stream is not routed to a distillation unit subject to Title 40 CFR Part 60, Subpart NNN or has other releases to the air than from a pressure relief valve.</p> <p>TRE Index Value = TRE index value is less than or equal to 8.0 or a TRE index value is not calculated or claimed for exemption 40 CFR § 60.700(c)(2).</p> <p>TRE for Halogenated Vent Stream = TRE index value is being calculated for a nonhalogenated vent stream.</p>
OP2ELFLA	40 CFR Part 61, Subpart FF	61FF-1	<p>Unit Type = Individual drain system</p> <p>By-pass Line = System does not contain by-pass lines</p> <p>Control Device Type/Operation = Flare.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
OP3ELFLA	40 CFR Part 61, Subpart FF	61FF-1	Unit Type = Individual drain system By-pass Line = System does not contain by-pass lines Control Device Type/Operation = Flare.
OP3GRFLA	40 CFR Part 61, Subpart FF	61FF-1	Unit Type = Individual drain system By-pass Line = System does not contain by-pass lines Control Device Type/Operation = Flare.
PROAERAT	40 CFR Part 61, Subpart FF	61FF-1	AMOC = An alternate means of compliance (AMOC) to meet the requirements of 40 CFR § 61.348 for treatment processes is not used. Complying with § 61.342(e) = The facility is complying with 40 CFR § 61.342(e). Openings = The treatment process or wastewater treatment system unit has no openings. Benzene Removal = Benzene is removed from the waste stream by 99% or more on a mass basis. Closed-Vent System and Control Device = A closed-vent system and control device is not used. Process Or Stream Exemption = The treatment process or waste stream is not complying with 40 CFR §61.348(d). Treatment Process Engineering Calculations = Engineering calculations show that the treatment process or wastewater treatment system unit is proven to achieve its emission limitation.
PROAROM	40 CFR Part 63, Subpart F	63F-1	Applicable Chemicals = The chemical manufacturing process unit manufactures, as a primary product, one or more of the chemicals listed in 40 CFR § 63.100(b)(1)(i) or 40 CFR § 63.100(b)(1)(ii). Intervening Cooling Fluid = There is no intervening cooling fluid containing less than 5 percent by weight of total HAPs listed in Table 4 of 40 CFR Part 63, Subpart F, between the process and cooling water. Table 2 HAP = The chemical manufacturing process unit uses as a reactant or manufactures, as a product or co-product, one or more of the organic hazardous air pollutants in Table 2. Table 4 HAP Content = The recirculating heat exchange system is not used exclusively to cool process fluids that contain less than 5 percent by weight of total HAPs listed in Table 4 of title 40 CFR Part 63, Subpart F. Alternate Means of Emission Limitation = No alternative means of emission limitation has been approved by the EPA Administrator to achieve a reduction in organic HAP emission or no alternate has been requested. NPDES Permit = The once-through heat exchange system is not subject to NPDES permit with an allowable discharge limit of 1 part per million or less above influent concentration or 10 percent or less above influent concentration. Meets 40 CFR 63.104(a)(4)(i)-(iv) = The once-through heat exchange system is not subject to an NPDES permit that meets 40 CFR § 63.104(a)(4)(i) - (iv). Heat Exchange System = A heat exchange system is utilized. Table 9 HAP Content = The once-through heat exchange system is not used exclusively to cool process fluids that contain less than 5 percent by weight of total HAPs listed in Table 9 of 40 CFR Part 63, Subpart G. Cooling Water Monitored = The cooling water is being monitored for the presence of one or more HAPs or other representative substances whose presence in cooling water indicates a leak. Cooling Water Pressure = The heat exchange system is not operated with the minimum pressure on the cooling water side at least 35 kilopascals greater than the maximum pressure on the process side.
PROBD3	40 CFR Part 63, Subpart F	63F-1	Applicable Chemicals = The chemical manufacturing process unit manufactures, as a primary product, one or more of the chemicals listed in 40 CFR § 63.100(b)(1)(i) or 40 CFR § 63.100(b)(1)(ii). Intervening Cooling Fluid = There is no intervening cooling fluid containing less than 5 percent by weight of total HAPs listed in Table 4 of 40 CFR Part 63, Subpart F, between the process and cooling water.

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>Table 2 HAP = The chemical manufacturing process unit uses as a reactant or manufactures, as a product or co-product, one or more of the organic hazardous air pollutants in Table 2.</p> <p>Table 4 HAP Content = The recirculating heat exchange system is not used exclusively to cool process fluids that contain less than 5 percent by weight of total HAPs listed in Table 4 of title 40 CFR Part 63, Subpart F.</p> <p>Alternate Means of Emission Limitation = No alternative means of emission limitation has been approved by the EPA Administrator to achieve a reduction in organic HAP emission or no alternate has been requested.</p> <p>NPDES Permit = The once-through heat exchange system is not subject to NPDES permit with an allowable discharge limit of 1 part per million or less above influent concentration or 10 percent or less above influent concentration.</p> <p>Meets 40 CFR 63.104(a)(4)(i)-(iv) = The once-through heat exchange system is not subject to an NPDES permit that meets 40 CFR § 63.104(a)(4)(i) - (iv).</p> <p>Heat Exchange System = A heat exchange system is utilized.</p> <p>Table 9 HAP Content = The once-through heat exchange system is not used exclusively to cool process fluids that contain less than 5 percent by weight of total HAPs listed in Table 9 of 40 CFR Part 63, Subpart G.</p> <p>Cooling Water Monitored = The cooling water is being monitored for the presence of one or more HAPs or other representative substances whose presence in cooling water indicates a leak.</p> <p>Cooling Water Pressure = The heat exchange system is not operated with the minimum pressure on the cooling water side at least 35 kilopascals greater than the maximum pressure on the process side.</p>
PRODIST	40 CFR Part 63, Subpart F	63F-1	<p>Applicable Chemicals = The chemical manufacturing process unit manufactures, as a primary product, one or more of the chemicals listed in 40 CFR § 63.100(b)(1)(i) or 40 CFR § 63.100(b)(1)(ii).</p> <p>Table 2 HAP = The chemical manufacturing process unit uses as a reactant or manufactures, as a product or co-product, one or more of the organic hazardous air pollutants in Table 2.</p> <p>Alternate Means of Emission Limitation = No alternative means of emission limitation has been approved by the EPA Administrator to achieve a reduction in organic HAP emission or no alternate has been requested.</p> <p>Heat Exchange System = No heat exchange system is utilized.</p>
PROOXY	40 CFR Part 63, Subpart F	63F-1	<p>Applicable Chemicals = The chemical manufacturing process unit manufactures, as a primary product, one or more of the chemicals listed in 40 CFR § 63.100(b)(1)(i) or 40 CFR § 63.100(b)(1)(ii).</p> <p>Intervening Cooling Fluid = There is no intervening cooling fluid containing less than 5 percent by weight of total HAPs listed in Table 4 of 40 CFR Part 63, Subpart F, between the process and cooling water.</p> <p>Table 2 HAP = The chemical manufacturing process unit uses as a reactant or manufactures, as a product or co-product, one or more of the organic hazardous air pollutants in Table 2.</p> <p>Table 4 HAP Content = The recirculating heat exchange system is not used exclusively to cool process fluids that contain less than 5 percent by weight of total HAPs listed in Table 4 of title 40 CFR Part 63, Subpart F.</p> <p>Alternate Means of Emission Limitation = No alternative means of emission limitation has been approved by the EPA Administrator to achieve a reduction in organic HAP emission or no alternate has been requested.</p> <p>NPDES Permit = The once-through heat exchange system is not subject to NPDES permit with an allowable discharge limit of 1 part per million or less above influent concentration or 10 percent or less above influent concentration.</p> <p>Meets 40 CFR 63.104(a)(4)(i)-(iv) = The once-through heat exchange system is not subject to an NPDES permit that meets 40 CFR § 63.104(a)(4)(i) - (iv).</p> <p>Heat Exchange System = A heat exchange system is utilized.</p> <p>Table 9 HAP Content = The once-through heat exchange system is not used exclusively to cool process fluids that contain less than 5 percent by weight of total HAPs listed in Table 9 of 40 CFR Part 63, Subpart G.</p> <p>Cooling Water Monitored = The cooling water is being monitored for the presence of one or more HAPs or other representative substances whose presence in cooling water indicates a leak.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			Cooling Water Pressure = The heat exchange system is not operated with the minimum pressure on the cooling water side at least 35 kilopascals greater than the maximum pressure on the process side.
PROPAU	40 CFR Part 63, Subpart F	63F-1	<p>Applicable Chemicals = The chemical manufacturing process unit manufactures, as a primary product, one or more of the chemicals listed in 40 CFR § 63.100(b)(1)(i) or 40 CFR § 63.100(b)(1)(ii).</p> <p>Intervening Cooling Fluid = There is no intervening cooling fluid containing less than 5 percent by weight of total HAPs listed in Table 4 of 40 CFR Part 63, Subpart F, between the process and cooling water.</p> <p>Table 2 HAP = The chemical manufacturing process unit uses as a reactant or manufactures, as a product or co-product, one or more of the organic hazardous air pollutants in Table 2.</p> <p>Table 4 HAP Content = The recirculating heat exchange system is not used exclusively to cool process fluids that contain less than 5 percent by weight of total HAPs listed in Table 4 of title 40 CFR Part 63, Subpart F.</p> <p>Alternate Means of Emission Limitation = No alternative means of emission limitation has been approved by the EPA Administrator to achieve a reduction in organic HAP emission or no alternate has been requested.</p> <p>NPDES Permit = The once-through heat exchange system is not subject to NPDES permit with an allowable discharge limit of 1 part per million or less above influent concentration or 10 percent or less above influent concentration.</p> <p>Meets 40 CFR 63.104(a)(4)(i)-(iv) = The once-through heat exchange system is not subject to an NPDES permit that meets 40 CFR § 63.104(a)(4)(i) - (iv).</p> <p>Heat Exchange System = A heat exchange system is utilized.</p> <p>Table 9 HAP Content = The once-through heat exchange system is not used exclusively to cool process fluids that contain less than 5 percent by weight of total HAPs listed in Table 9 of 40 CFR Part 63, Subpart G.</p> <p>Cooling Water Monitored = The cooling water is being monitored for the presence of one or more HAPs or other representative substances whose presence in cooling water indicates a leak.</p> <p>Cooling Water Pressure = The heat exchange system is not operated with the minimum pressure on the cooling water side at least 35 kilopascals greater than the maximum pressure on the process side.</p>

* - The “unit attributes” or operating conditions that determine what requirements apply

NSR Versus Title V FOP

The state of Texas has two Air permitting programs, New Source Review (NSR) and Title V Federal Operating Permits. The two programs are substantially different both in intent and permit content.

NSR is a preconstruction permitting program authorized by the Texas Clean Air Act and Title I of the Federal Clean Air Act (FCAA). The processing of these permits is governed by 30 Texas Administrative Code (TAC) Chapter 116.111. The Title V Federal Operating Program is a federal program authorized under Title V of the FCAA that has been delegated to the state of Texas to administer and is governed by 30 TAC Chapter 122. The major differences between the two permitting programs are listed in the table below:

NSR Permit	Federal Operating Permit(FOP)
Issued Prior to new Construction or modification of an existing facility	For initial permit with application shield, can be issued after operation commences; significant revisions require approval prior to operation.
Authorizes air emissions	Codifies existing applicable requirements, does not authorize new emissions
Ensures issued permits are protective of the environment and human health by conducting a health effects review and that requirement for best available control technology (BACT) is implemented.	Applicable requirements listed in permit are used by the inspectors to ensure proper operation of the site as authorized. Ensures that adequate monitoring is in place to allow compliance determination with the FOP.
Up to two Public notices may be required. Opportunity for public comment and contested case hearings for some authorizations.	One public notice required. Opportunity for public comments. No contested case hearings.
Applies to all point source emissions in the state.	Applies to all major sources and some non-major sources identified by the EPA.
Applies to facilities: a portion of site or individual emission sources	One or multiple FOPs cover the entire site (consists of multiple facilities)
Permits include terms and conditions under which the applicant must construct and operate its various equipment and processes on a facility basis.	Permits include terms and conditions that specify the general operational requirements of the site; and also include codification of all applicable requirements for emission units at the site.
Opportunity for EPA review for Federal Prevention of Significant Deterioration (PSD) and Nonattainment (NA) permits for major sources.	Opportunity for EPA review, Affected states review, and a Public petition period for every FOP.
Permits have a table listing maximum emission limits for pollutants	Permit has an applicable requirements table and Periodic Monitoring (PM) / Compliance Assurance Monitoring (CAM) tables which document applicable monitoring requirements.
Permits can be altered or amended upon application by company. Permits must be issued before construction or modification of facilities can begin.	Permits can be revised through several revision processes, which provide for different levels of public notice and opportunity to comment. Changes that would be significant revisions require that a revised permit be issued before those changes can be operated.
NSR permits are issued independent of FOP requirements.	FOP are independent of NSR permits, but contain a list of all NSR permits incorporated by reference

New Source Review Requirements

Below is a list of the New Source Review (NSR) permits for the permitted area. These NSR permits are incorporated by reference into the operating permit and are enforceable under it. The permit contains two attachments that list NSR Authorizations for the permitted area. These authorizations include major and minor new source review permits, standard permits and permits by rule. The "New Source Review Authorization References" attachment lists all NSR Authorizations for the permitted area, and the "New

Source Review Authorization References by Emission Unit” attachment lists emission units in the permitted area and NSR authorizations for each. To address an objection to this permit granted by the EPA Administrator by order dated September 24, 2015, The attached tables have been revised to provide additional information on the PBRs claimed at this site. These NSR permits and registrations can be found in the main TCEQ file room, located on the first floor of Building E, 12100 Park 35 Circle, Austin, Texas. The Public Education Program may be contacted at 1-800-687-4040 or the Air Permits Division (APD) may be contacted at 1-512-239-1250 for help with any question.

The status of air permits and applications and a link to the Air Permits Remote Document Server is located at the following Web site:

www.tceq.texas.gov/permitting/air/nav/air_status_permits.html

Permits by Rule

Additionally, the site contains emission units that are permitted by rule under the requirements of 30 TAC Chapter 106, Permits by Rule. The following table specifies the permits by rule that apply to the site. All current permits by rule are contained in Chapter 106. Outdated 30 TAC Chapter 106 permits by rule may be viewed at the following Web site:

www.tceq.texas.gov/permitting/air/permitbyrule/historical_rules/old106list/index106.html

Outdated Standard Exemption lists may be viewed at the following Web site:

www.tceq.texas.gov/permitting/air/permitbyrule/historical_rules/oldselist/se_index.html

Texas Commission on Environmental Quality (TCEQ) regulates facilities that release air contaminants, even in small amounts, under its air permit rules. Facilities with emissions that do not meet de minimis criteria but will not make a significant contribution of air contaminants to the atmosphere may be permitted by rule. Facilities authorized by PBR must be constructed and operated with certain restrictions.

A PBR may be claimed when both the following conditions are met: 1. The facility meets all applicable requirements of 30 TAC § 106.4. These requirements limit the amount of annual emissions to less than federal permit major source levels, and require compliance with all state and federal regulations; and 2. The facility meets all applicable conditions of one or more individual PBRs contained in 30 TAC Chapter 106. These requirements may specify design requirements for certain facilities, production or material use limits, and operational restrictions.

Certain PBRs require registration with TCEQ as stated in the specific PBR. Other PBRs are not required to be registered with TCEQ. In either case, the permit holder must maintain sufficient records to demonstrate compliance with the annual emissions limits specified in 30 TAC § 106 and maintain sufficient records to demonstrate compliance with the emission limits and specific conditions of the PBR.

Permit holders may also certify emissions in a PBR registration to establish federally enforceable emission limits below the emission limits of 30 TAC § 106.4 which establishes limits for production and planned MSS for each facility (piece of equipment) to 250 tons per year (tpy) Nitrogen Oxides (NOx) and Carbon Monoxide (CO); 25 tpy Volatile Organic Compounds (VOC), Particulate Matter (PM), Sulfur Dioxide (SO₂), and any other contaminant (except water, nitrogen, ethane, hydrogen, oxygen, and greenhouse gases); 15 tpy of particulate matter with diameters of 10 microns or less (PM₁₀); or 10 tpy of particulate matter with diameters of 2.5 microns or less (PM_{2.5}).

PBR registrations may be certified to demonstrate that emission allowables for each facility claimed under the PBR are less than the netting or major source trigger levels under the PSD and NNSR programs. Certifications are also required for sites subject to NOx cap and trade programs under 30 TAC Chapter 101 and for ensuring that any PBR claims do not exceed permitted flexible caps for facilities permitted under 30 TAC Chapter 116, Subchapter G.

For PBRs that are registered with TCEQ, copies of the registration letters may be viewed through the Remote Document Server (RDS) at <https://webmail.tceq.state.tx.us/gw/webpub>. PBR registrations that are certified will have the specific maximum permitted allowables for each facility attached to the registration letter.

Incorporation of PBRs in NSR Permits

TCEQ's Policy and Guidance Memo dated September 26, 2006

http://www.tceq.texas.gov/assets/public/permitting/air/memos/pbr_spc06.pdf defines the two different scenarios that will determine when and how a PBR or SP should be consolidated in the NSR permit for that facility when the NSR permit is amended or renewed: consolidation by reference and consolidation by incorporation.

Standard Permits and PBRs that directly affect the emissions of permitted facilities must, at a minimum, be consolidated by reference when the NSR permit is amended or at renewal. If Standard Permits and PBRs occur at the NSR permitted site, but do not directly affect NSR permitted facilities, it is not required, but at the request of the NSR permit holder they may be consolidated by reference. Referencing will not require a best available control technology (BACT) review but may require an impacts review based on commission guidance.

Consolidation of all other PBRs and SPs by incorporation (rolled in) is voluntary. If the NSR permit holder requests incorporation (that is, reauthorization under the NSR permit), PBRs and SPs may be incorporated but will undergo BACT and impacts review based on commission guidance. When incorporated into the NSR permit, the original authorization becomes void. The incorporation of PBRs and SPs requires an amendment, but no additional forms or fees are required if a complete renewal package with the above information is submitted.

Prevention of Significant Deterioration (PSD) Permits	
PSD Permit No.: PSDTX896	Issuance Date: 01/18/2017
PSD Permit No.: PSDTX928	Issuance Date: 12/15/2016
PSD Permit No.: PSDTX974	Issuance Date: 09/16/2016
Title 30 TAC Chapter 116 Permits, Special Permits, and Other Authorizations (Other Than Permits By Rule, PSD Permits, or NA Permits) for the Application Area.	
Authorization No.: 1119	Issuance Date: 12/15/2016
Authorization No.: 1120	Issuance Date: 12/15/2016
Authorization No.: 18576	Issuance Date: 04/15/2014
Authorization No.: 1968	Issuance Date: 03/07/2011
Authorization No.: 19849	Issuance Date: 10/09/2013
Authorization No.: 21262	Issuance Date: 12/15/2016
Authorization No.: 2597	Issuance Date: 06/17/2011
Authorization No.: 3178	Issuance Date: 01/27/2016
Authorization No.: 3179	Issuance Date: 11/10/2016
Authorization No.: 3214	Issuance Date: 09/16/2016
Authorization No.: 3215	Issuance Date: 10/20/2015
Authorization No.: 3216	Issuance Date: 07/19/2016
Authorization No.: 3217	Issuance Date: 11/03/2008

Authorization No.: 3218	Issuance Date: 03/27/2017
Authorization No.: 3219	Issuance Date: 09/16/2016
Authorization No.: 37206	Issuance Date: 01/18/2017
Authorization No.: 3985A	Issuance Date: 08/02/2016
Authorization No.: 48912	Issuance Date: 02/05/2016
Authorization No.: 56476	Issuance Date: 08/08/2014
Authorization No.: 56496	Issuance Date: 09/16/2016
Authorization No.: 80525	Issuance Date: 11/02/2016
Authorization No.: 9334	Issuance Date: 11/26/2013
Permits By Rule (30 TAC Chapter 106) for the Application Area	
Number: 106.261	Version No./Date: 09/04/2000
Number: 106.261	Version No./Date: 11/01/2003
Number: 106.262	Version No./Date: 03/14/1997
Number: 106.262	Version No./Date: 12/24/1998
Number: 106.262	Version No./Date: 09/04/2000
Number: 106.262	Version No./Date: 11/01/2003
Number: 106.263	Version No./Date: 11/01/2001
Number: 106.371	Version No./Date: 09/04/2000
Number: 106.472	Version No./Date: 03/14/1997
Number: 106.472	Version No./Date: 09/04/2000
Number: 106.473	Version No./Date: 09/04/2000
Number: 106.476	Version No./Date: 09/04/2000
Number: 106.478	Version No./Date: 09/04/2000
Number: 106.492	Version No./Date: 09/04/2000
Number: 106.532	Version No./Date: 09/04/2000
Number: 51	Version No./Date: 09/12/1989
Number: 51	Version No./Date: 06/07/1996
Number: 53	Version No./Date: 06/07/1996
Number: 80	Version No./Date: 09/20/1993
Number: 80	Version No./Date: 10/04/1995
Number: 86	Version No./Date: 09/12/1989
Number: 86	Version No./Date: 09/13/1993
Number: 106	Version No./Date: 09/20/1993

Number: 118	Version No./Date: 09/12/1989
Number: 118	Version No./Date: 09/13/1993
Number: 118	Version No./Date: 09/20/1993
Number: 118	Version No./Date: 06/07/1996
Municipal Solid Waste and Industrial Hazardous Waste Permits With an Air Addendum	
Permit No.: HW50099001	

Emission Units and Emission Points

In air permitting terminology, any source capable of generating emissions (for example, an engine or a sandblasting area) is called an Emission Unit. For purposes of Title V, emission units are specifically listed in the operating permit when they have applicable requirements other than New Source Review (NSR), or when they are listed in the permit shield table.

The actual physical location where the emissions enter the atmosphere (for example, an engine stack or a sand-blasting yard) is called an emission point. For New Source Review preconstruction permitting purposes, every emission unit has an associated emission point. Emission limits are listed in an NSR permit, associated with an emission point. This list of emission points and emission limits per pollutant is commonly referred to as the "Maximum Allowable Emission Rate Table", or "MAERT" for short. Specifically, the MAERT lists the Emission Point Number (EPN) that identifies the emission point, followed immediately by the Source Name, identifying the emission unit that is the source of those emissions on this table.

Thus, by reference, an emission unit in a Title V operating permit is linked by reference number to an NSR authorization, and its related emission point.

List of Insignificant Emissions Units

1. Office activities such as photocopying, blueprint copying, and photographic processes.
2. Sanitary sewage collection and treatment facilities other than those used to incinerate wastewater treatment plant sludge. Stacks or vents for sanitary sewer plumbing traps are also included.
3. Food preparation facilities including, but not limited to, restaurants and cafeterias used for preparing food or beverages primarily for consumption on the premises.
4. Outdoor barbecue pits, campfires, and fireplaces.
5. Any air separation or other industrial gas production, storage, or packaging facility. Industrial gases, for purposes of this list, include only oxygen, nitrogen, helium, neon, argon, krypton, and xenon.
6. Storage and handling of sealed portable containers, cylinders, or sealed drums.
7. Vehicle exhaust from maintenance or repair shops.
8. Storage and use of non-VOC products or equipment for maintaining motor vehicles operated at the site (including but not limited to, antifreeze and fuel additives).
9. Air contaminant detectors and recorders, combustion controllers and shut-off devices, product analyzers, laboratory analyzers, continuous emissions monitors, other analyzers and monitors, and emissions associated with sampling activities. Exception to this category includes sampling activities that are deemed fugitive emissions and under a regulatory leak detection and repair program.
10. Bench scale laboratory equipment and laboratory equipment used exclusively for chemical and physical analysis, including but not limited to, assorted vacuum producing devices and laboratory fume hoods.
11. Steam vents, steam leaks, and steam safety relief valves, provided the steam (or boiler feedwater) has not contacted other materials or fluids containing regulated air pollutants other than boiler water treatment chemicals.
12. Storage of water that has not contacted other materials or fluids containing regulated air pollutants other than boiler water treatment chemicals.

13. Fire or emergency response equipment and training, including but not limited to, use of fire control equipment including equipment testing and training, and open burning of materials or fuels associated with firefighting training.
14. Equipment used for inspection of metal products.
15. Instrument systems utilizing air, natural gas, nitrogen, oxygen, carbon dioxide, helium, neon, argon, krypton, and xenon.
16. Battery recharging areas.
17. Brazing, soldering, or welding equipment.

Monitoring Sufficiency

Federal and state rules, 40 CFR § 70.6(a)(3)(i)(B) and 30 TAC § 122.142(c) respectively, require that each federal operating permit include additional monitoring for applicable requirements that lack periodic or instrumental monitoring (which may include recordkeeping that serves as monitoring) that yields reliable data from a relevant time period that are representative of the emission unit's compliance with the applicable emission limitation or standard. Subsection 70.6(c)(1) and 30 TAC § 122.142(b)(2)(B)(ii) also provides that all operating permits must contain monitoring requirements sufficient to assure compliance with the terms and conditions of the permit. Furthermore, the federal operating permit must include compliance assurance monitoring (CAM) requirements for emission sources that meet the applicability criteria of 40 CFR Part 64 in accordance with 40 CFR § 70.6(a)(3)(i)(A) and 30 TAC § 122.604(b).

With the exception of any emission units listed in the Periodic Monitoring or CAM Summaries in the FOP, the TCEQ Executive Director has determined that the permit contains sufficient monitoring, testing, recordkeeping, and reporting requirements that assure compliance with the applicable requirements. Such monitoring requirements were developed through the NSR permitting process for permit specific emission limits and operating requirements, taking into consideration the specific types of equipment and processes, as well as the air contaminants emitted, authorized by the permit. More generally, monitoring, testing, recordkeeping, and reporting requirements are developed by TCEQ for, PM, SO₂, VOC and NO_x sources, and these requirements can be found in 30 TAC Chapters 111, 112, 115 and 117, respectively. During the rulemaking process, the necessary monitoring, testing, recordkeeping, and reporting requirements are developed to ensure that applicable sources will be able to ensure that they are meeting the applicable rule requirements. EPA also develops necessary monitoring, testing, recordkeeping, and reporting requirements through federal rulemaking for applicable sources, under CAA sections 111 (NSPS) and 112 (NESHAP). If applicable, each emission unit that requires additional monitoring in the form of periodic monitoring or CAM is described in further detail under the Rationale for CAM/PM Methods Selected section following this paragraph.

The rationale for the following units was prepared to address objections granted by the EPA Administrator on this permit in an order issued September 24, 2015.

Monitoring Rationale for Storage Tanks and Wastewater Treatment Facilities

Shell uses measured temperature or a standard met data monthly temperature for ambient tanks to calculate the vapor pressure and vapor molecular weight of the material in the tank. The fill rate of each vessel is measured on a continuous basis. These values are inputs into a computer program with the latest AP42 equations and factors to estimate/calculate the lb/hr and annual average ton per year rate for each tank.

The CEMSET calculations used in Shell's permit Applications follow the same treatment system emission methodology as is used in the EPA WATER series. The CEMSETS calculations contain additional treatment process emission modules, and have generally been tailored for the Shell Deer Park site's SET process. The EPA WATER9 and CEMSET models are based largely upon the calculation methodology available in the USEPA document Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF) - Air Emission Models (EPA-450/3-87-026, December 1987). However, the circular clarifier liquid phase mass transfer coefficient (KL) values calculated by WATER9 differ from the value calculated by CEMSETS and the TSDF calculations. The TSDF calculations agree with and support Shell's CEMSETS results. The apparent reason for the greater mass transfer in WATER9 is the assumed flow of water across the clarifier surface. In the CEMSETS and TSDF models, contaminants entering the clarifier undergo liquid-gas mass transfer from the quiescent surface and

the weir. Samples of the inlet streams were taken over time to determine the average expected concentration of each pollutant. The flow of each inlet stream is monitored continuously, flow data is stored in Shell Deer Park's data management system. Concentration and flow data are input into the model to determine the mass emission rate of each pollutant. The data input into the model is performed annually. A more detailed explanation of the calculations is attached at the end of this document.

Rationale for Compliance Assurance Monitoring (CAM)/ Periodic Monitoring Methods Selected

Compliance Assurance Monitoring (CAM):

Compliance Assurance Monitoring (CAM) is a federal monitoring program established under Title 40 Code of Federal Regulations Part 64 (40 CFR Part 64).

Emission units are subject to CAM requirements if they meet the following criteria:

1. the emission unit is subject to an emission limitation or standard for an air pollutant (or surrogate thereof) in an applicable requirement;
2. the emission unit uses a control device to achieve compliance with the emission limitation or standard specified in the applicable requirement; and
3. the emission unit has the pre-control device potential to emit greater than or equal to the amount in tons per year for a site to be classified as a major source.

The following table(s) identify the emission unit(s) that are subject to CAM:

Unit/Group/Process Information	
ID No.: GRPVESSHO	
Control Device ID No.: OP3ELFLA	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R5112-1
Pollutant: VOC	Main Standard: 115.112
Monitoring Information	
Indicator: Pilot Flame	
Minimum Frequency: Continuous	
Averaging Period: n/a	
Deviation Limit: No pilot flame	
Basis of CAM: It is widely practiced and accepted to monitor the flare pilot flame by closed circuit cameras, thermocouples and visual inspection. The presence of the pilot flame demonstrates that VOC emissions are combusted. Monitoring the presence of a pilot flame is required in many federal rules, including: 40 CFR Part 60, Subparts K, III, NNN, QQQ, and RRR; 40 CFR Part 61, Subparts BB and FF; and 40 CFR Part 63, Subparts G, R, W, DD, and HH.	

Unit/Group/Process Information	
ID No.: GRPVESSHO	
Control Device ID No.: OP3GRFLA	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R5112-2
Pollutant: VOC	Main Standard: 115.112
Monitoring Information	
Indicator: Pilot Flame	
Minimum Frequency: Continuous	
Averaging Period: n/a	
Deviation Limit: No pilot flame	
Basis of CAM: It is widely practiced and accepted to monitor the flare pilot flame by closed circuit cameras, thermocouples and visual inspection. The presence of the pilot flame demonstrates that VOC emissions are combusted. Monitoring the presence of a pilot flame is required in many federal rules, including: 40 CFR Part 60, Subparts K, III, NNN, QQQ, and RRR; 40 CFR Part 61, Subparts BB and FF; and 40 CFR Part 63, Subparts G, R, W, DD, and HH.	

Unit/Group/Process Information	
ID No.: GRPVESSHO	
Control Device ID No.: OP2ELFLA	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R5112-3
Pollutant: VOC	Main Standard: 115.112
Monitoring Information	
Indicator: Pilot Flame	
Minimum Frequency: Continuous	
Averaging Period: n/a	
Deviation Limit: No pilot flame	
Basis of CAM: It is widely practiced and accepted to monitor the flare pilot flame by closed circuit cameras, thermocouples and visual inspection. The presence of the pilot flame demonstrates that VOC emissions are combusted. Monitoring the presence of a pilot flame is required in many federal rules, including: 40 CFR Part 60, Subparts K, III, NNN, QQQ, and RRR; 40 CFR Part 61, Subparts BB and FF; and 40 CFR Part 63, Subparts G, R, W, DD, and HH.	

Unit/Group/Process Information	
ID No.: GRPVNT	
Control Device ID No.: OP3ELFLA	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R5121-1
Pollutant: VOC	Main Standard: § 115.121(a)(2)
Monitoring Information	
Indicator: Pilot Flame	
Minimum Frequency: Continuous	
Averaging Period: n/a	
Deviation Limit: No pilot flame	
Basis of CAM: It is widely practiced and accepted to monitor the flare pilot flame by closed circuit cameras, thermocouples and visual inspection. The presence of the pilot flame demonstrates that VOC emissions are combusted. Monitoring the presence of a pilot flame is required in many federal rules, including: 40 CFR Part 60, Subparts K, III, NNN, QQQ, and RRR; 40 CFR Part 61, Subparts BB and FF; and 40 CFR Part 63, Subparts G, R, W, DD, and HH.	

Unit/Group/Process Information	
ID No.: GRPVNT	
Control Device ID No.: OP3GRFLA	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R5121-2
Pollutant: VOC	Main Standard: § 115.121(a)(2)
Monitoring Information	
Indicator: Pilot Flame	
Minimum Frequency: Continuous	
Averaging Period: n/a	
Deviation Limit: No pilot flame	
<p>Basis of CAM: It is widely practiced and accepted to monitor the flare pilot flame by closed circuit cameras, thermocouples and visual inspection. The presence of the pilot flame demonstrates that VOC emissions are combusted. Monitoring the presence of a pilot flame is required in many federal rules, including: 40 CFR Part 60, Subparts K, III, NNN, QQQ, and RRR; 40 CFR Part 61, Subparts BB and FF; and 40 CFR Part 63, Subparts G, R, W, DD, and HH.</p>	

Unit/Group/Process Information	
ID No.: GRPVNT	
Control Device ID No.: OP2ELFLA	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R5121-3
Pollutant: VOC	Main Standard: § 115.121(a)(2)
Monitoring Information	
Indicator: Pilot Flame	
Minimum Frequency: Continuous	
Averaging Period: n/a	
Deviation Limit: No pilot flame	
<p>Basis of CAM: It is widely practiced and accepted to monitor the flare pilot flame by closed circuit cameras, thermocouples and visual inspection. The presence of the pilot flame demonstrates that VOC emissions are combusted. Monitoring the presence of a pilot flame is required in many federal rules, including: 40 CFR Part 60, Subparts K, III, NNN, QQQ, and RRR; 40 CFR Part 61, Subparts BB and FF; and 40 CFR Part 63, Subparts G, R, W, DD, and HH.</p>	

Unit/Group/Process Information	
ID No.: GRPVNT2	
Control Device ID No.: OP3ELFLA	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R5121-1
Pollutant: VOC	Main Standard: § 115.121(a)(2)
Monitoring Information	
Indicator: Pilot Flame	
Minimum Frequency: Continuous	
Averaging Period: n/a	
Deviation Limit: No pilot flame	
<p>Basis of CAM: It is widely practiced and accepted to monitor the flare pilot flame by closed circuit cameras, thermocouples and visual inspection. The presence of the pilot flame demonstrates that VOC emissions are combusted. Monitoring the presence of a pilot flame is required in many federal rules, including: 40 CFR Part 60, Subparts K, III, NNN, QQQ, and RRR; 40 CFR Part 61, Subparts BB and FF; and 40 CFR Part 63, Subparts G, R, W, DD, and HH.</p>	

Unit/Group/Process Information	
ID No.: GRPVNT2	
Control Device ID No.: OP3GRFLA	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R5121-2
Pollutant: VOC	Main Standard: § 115.121(a)(2)
Monitoring Information	
Indicator: Pilot Flame	
Minimum Frequency: Continuous	
Averaging Period: n/a	
Deviation Limit: No pilot flame	
Basis of CAM: It is widely practiced and accepted to monitor the flare pilot flame by closed circuit cameras, thermocouples and visual inspection. The presence of the pilot flame demonstrates that VOC emissions are combusted. Monitoring the presence of a pilot flame is required in many federal rules, including: 40 CFR Part 60, Subparts K, III, NNN, QQQ, and RRR; 40 CFR Part 61, Subparts BB and FF; and 40 CFR Part 63, Subparts G, R, W, DD, and HH.	

Unit/Group/Process Information	
ID No.: GRPVNT2	
Control Device ID No.: OP2ELFLA	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R5121-3
Pollutant: VOC	Main Standard: § 115.121(a)(2)
Monitoring Information	
Indicator: Pilot Flame	
Minimum Frequency: Continuous	
Averaging Period: n/a	
Deviation Limit: No pilot flame	
Basis of CAM: It is widely practiced and accepted to monitor the flare pilot flame by closed circuit cameras, thermocouples and visual inspection. The presence of the pilot flame demonstrates that VOC emissions are combusted. Monitoring the presence of a pilot flame is required in many federal rules, including: 40 CFR Part 60, Subparts K, III, NNN, QQQ, and RRR; 40 CFR Part 61, Subparts BB and FF; and 40 CFR Part 63, Subparts G, R, W, DD, and HH.	

Unit/Group/Process Information	
ID No.: LPGFL	
Control Device ID No.: A1301	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R5121-1
Pollutant: VOC	Main Standard: § 115.121(a)(1)
Monitoring Information	
Indicator: Pilot Flame	
Minimum Frequency: Continuous	
Averaging Period: n/a	
Deviation Limit: No pilot flame	
Basis of CAM: It is widely practiced and accepted to monitor the flare pilot flame by closed circuit cameras, thermocouples and visual inspection. The presence of the pilot flame demonstrates that VOC emissions are combusted. Monitoring the presence of a pilot flame is required in many federal rules, including: 40 CFR Part 60, Subparts K, III, NNN, QQQ, and RRR; 40 CFR Part 61, Subparts BB and FF; and 40 CFR Part 63, Subparts G, R, W, DD, and HH.	

Unit/Group/Process Information	
ID No.: OP2DIST	
Control Device ID No.: OP3ELFLA	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R5121-1
Pollutant: VOC	Main Standard: § 115.121(a)(2)
Monitoring Information	
Indicator: Pilot Flame	
Minimum Frequency: Continuous	
Averaging Period: n/a	
Deviation Limit: No pilot flame	
Basis of CAM: It is widely practiced and accepted to monitor the flare pilot flame by closed circuit cameras, thermocouples and visual inspection. The presence of the pilot flame demonstrates that VOC emissions are combusted. Monitoring the presence of a pilot flame is required in many federal rules, including: 40 CFR Part 60, Subparts K, III, NNN, QQQ, and RRR; 40 CFR Part 61, Subparts BB and FF; and 40 CFR Part 63, Subparts G, R, W, DD, and HH.	

Unit/Group/Process Information	
ID No.: OP2DIST	
Control Device ID No.: OP2ELFLA	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R5121-2
Pollutant: VOC	Main Standard: § 115.121(a)(2)
Monitoring Information	
Indicator: Pilot Flame	
Minimum Frequency: Continuous	
Averaging Period: n/a	
Deviation Limit: No pilot flame	
Basis of CAM: It is widely practiced and accepted to monitor the flare pilot flame by closed circuit cameras, thermocouples and visual inspection. The presence of the pilot flame demonstrates that VOC emissions are combusted. Monitoring the presence of a pilot flame is required in many federal rules, including: 40 CFR Part 60, Subparts K, III, NNN, QQQ, and RRR; 40 CFR Part 61, Subparts BB and FF; and 40 CFR Part 63, Subparts G, R, W, DD, and HH.	

Unit/Group/Process Information	
ID No.: OP2DIST	
Control Device ID No.: OP3GRFLA	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R5121-3
Pollutant: VOC	Main Standard: § 115.121(a)(2)
Monitoring Information	
Indicator: Pilot Flame	
Minimum Frequency: Continuous	
Averaging Period: n/a	
Deviation Limit: No pilot flame	
Basis of CAM: It is widely practiced and accepted to monitor the flare pilot flame by closed circuit cameras, thermocouples and visual inspection. The presence of the pilot flame demonstrates that VOC emissions are combusted. Monitoring the presence of a pilot flame is required in many federal rules, including: 40 CFR Part 60, Subparts K, III, NNN, QQQ, and RRR; 40 CFR Part 61, Subparts BB and FF; and 40 CFR Part 63, Subparts G, R, W, DD, and HH.	

Unit/Group/Process Information	
ID No.: SITE3FL	
Control Device ID No.: A1301	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R5121-1
Pollutant: VOC	Main Standard: § 115.121(a)(1)
Monitoring Information	
Indicator: Pilot Flame	
Minimum Frequency: Continuous	
Averaging Period: n/a	
Deviation Limit: No pilot flame	
Basis of CAM: It is widely practiced and accepted to monitor the flare pilot flame by closed circuit cameras, thermocouples and visual inspection. The presence of the pilot flame demonstrates that VOC emissions are combusted. Monitoring the presence of a pilot flame is required in many federal rules, including: 40 CFR Part 60, Subparts K, III, NNN, QQQ, and RRR; 40 CFR Part 61, Subparts BB and FF; and 40 CFR Part 63, Subparts G, R, W, DD, and HH.	

Unit/Group/Process Information	
ID No.: VBD933	
Control Device ID No.: OP2ELFLA	Control Device Type: Flare
Control Device ID No.: OP3ELFLA	Control Device Type: Flare
Control Device ID No.: OP3GRFLA	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R5112-1
Pollutant: VOC	Main Standard: 115.112
Monitoring Information	
Indicator: Pilot Flame	
Minimum Frequency: Continuous	
Averaging Period: n/a	
Deviation Limit: No pilot flame	
Basis of CAM: It is widely practiced and accepted to monitor the flare pilot flame by closed circuit cameras, thermocouples and visual inspection. The presence of the pilot flame demonstrates that VOC emissions are combusted. Monitoring the presence of a pilot flame is required in many federal rules, including: 40 CFR Part 60, Subparts K, III, NNN, QQQ, and RRR; 40 CFR Part 61, Subparts BB and FF; and 40 CFR Part 63, Subparts G, R, W, DD, and HH.	

Periodic Monitoring:

The Federal Clean Air Act requires that each federal operating permit include monitoring sufficient to assure compliance with the terms and conditions of the permit. Most of the emission limits and standards applicable to emission units at Title V sources include adequate monitoring to show that the units meet the limits and standards. For those requirements that do not include monitoring, or where the monitoring is not sufficient to assure compliance, the federal operating permit must include such monitoring for the emission units affected. The following emission units are subject to periodic monitoring requirements because the emission units are subject to an emission limitation or standard for an air pollutant (or surrogate thereof) in an applicable requirement that does not already require monitoring, or the monitoring for the applicable requirement is not sufficient to assure compliance:

Unit/Group/Process Information	
ID No.: A327	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 40 CFR Part 60, Subpart K	SOP Index No.: 60K-1
Pollutant: VOC	Main Standard: § 60.112(a)(1)
Monitoring Information	
Indicator: External floating roof	
Minimum Frequency: Annually	
Averaging Period: n/a	
Deviation Limit: If a failure cannot be repaired within 60 days and if the storage tank cannot be emptied within 60 days, the owner or operator may submit written requests for up to two extensions of up to 30 additional days each to the appropriate regional office.	
<p>Basis of monitoring:</p> <p>The option to monitor VOC emissions by visually inspecting the external floating roof or the internal floating roof was included as an option by the EPA in the "Periodic Monitoring Technical Reference Document" (April 1999) to monitor VOC sources. If the external or internal floating roof is operating in accordance with its design it will meet its control efficiency. Visually inspecting the external floating roof or the internal floating roof is commonly required in federal and state rules, including: 40 CFR Part 60, Subpart Kb; 40 CFR Part 61, Subpart Y; and 30 TAC Chapter 115. Measuring and recording the accumulated area of gaps if the tank is equipped with primary seals is commonly required in federal and state rules, including: 40 CFR Part 60, Subpart Kb; 40 CFR Part 61, Subpart Y; 40 CFR 63 Subparts VV, DD, and MMM; and 30 TAC Chapter 115.</p>	

Unit/Group/Process Information	
ID No.: A327	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 40 CFR Part 60, Subpart K	SOP Index No.: 60K-2
Pollutant: VOC	Main Standard: § 60.112(a)(1)
Monitoring Information	
Indicator: External floating roof	
Minimum Frequency: Annually	
Averaging Period: n/a	
Deviation Limit: If a failure cannot be repaired within 60 days and if the storage tank cannot be emptied within 60 days, the owner or operator may submit written requests for up to two extensions of up to 30 additional days each to the appropriate regional office.	
<p>Basis of monitoring:</p> <p>The option to monitor VOC emissions by visually inspecting the external floating roof or the internal floating roof was included as an option by the EPA in the “Periodic Monitoring Technical Reference Document” (April 1999) to monitor VOC sources. If the external or internal floating roof is operating in accordance with its design it will meet its control efficiency. Visually inspecting the external floating roof or the internal floating roof is commonly required in federal and state rules, including: 40 CFR Part 60, Subpart Kb; 40 CFR Part 61, Subpart Y; and 30 TAC Chapter 115. Measuring and recording the accumulated area of gaps if the tank is equipped with primary seals is commonly required in federal and state rules, including: 40 CFR Part 60, Subpart Kb; 40 CFR Part 61, Subpart Y; 40 CFR 63 Subparts VV, DD, and MMM; and 30 TAC Chapter 115.</p>	

Unit/Group/Process Information	
ID No.: A328	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 40 CFR Part 60, Subpart K	SOP Index No.: 60K-1
Pollutant: VOC	Main Standard: § 60.112(a)(1)
Monitoring Information	
Indicator: External Floating Roof	
Minimum Frequency: annually	
Averaging Period: n/a	
Deviation Limit: If a failure cannot be repaired within 60 days and if the storage tank cannot be emptied within 60 days, the owner or operator may submit written requests for up to two extensions of up to 30 additional days each to the appropriate regional office.	
<p>Basis of monitoring:</p> <p>The option to monitor VOC emissions by visually inspecting the external floating roof or the internal floating roof was included as an option by the EPA in the "Periodic Monitoring Technical Reference Document" (April 1999) to monitor VOC sources. If the external or internal floating roof is operating in accordance with its design it will meet its control efficiency. Visually inspecting the external floating roof or the internal floating roof is commonly required in federal and state rules, including: 40 CFR Part 60, Subpart Kb; 40 CFR Part 61, Subpart Y; and 30 TAC Chapter 115. Measuring and recording the accumulated area of gaps if the tank is equipped with primary seals is commonly required in federal and state rules, including: 40 CFR Part 60, Subpart Kb; 40 CFR Part 61, Subpart Y; 40 CFR 63 Subparts VV, DD, and MMM; and 30 TAC Chapter 115.</p>	

Unit/Group/Process Information	
ID No.: A328	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 40 CFR Part 60, Subpart K	SOP Index No.: 60K-2
Pollutant: VOC	Main Standard: § 60.112(a)(1)
Monitoring Information	
Indicator: External Floating Roof	
Minimum Frequency: annually	
Averaging Period: n/a	
Deviation Limit: If a failure cannot be repaired within 60 days and if the storage tank cannot be emptied within 60 days, the owner or operator may submit written requests for up to two extensions of up to 30 additional days each to the appropriate regional office.	
<p>Basis of monitoring:</p> <p>The option to monitor VOC emissions by visually inspecting the external floating roof or the internal floating roof was included as an option by the EPA in the "Periodic Monitoring Technical Reference Document" (April 1999) to monitor VOC sources. If the external or internal floating roof is operating in accordance with its design it will meet its control efficiency. Visually inspecting the external floating roof or the internal floating roof is commonly required in federal and state rules, including: 40 CFR Part 60, Subpart Kb; 40 CFR Part 61, Subpart Y; and 30 TAC Chapter 115. Measuring and recording the accumulated area of gaps if the tank is equipped with primary seals is commonly required in federal and state rules, including: 40 CFR Part 60, Subpart Kb; 40 CFR Part 61, Subpart Y; 40 CFR 63 Subparts VV, DD, and MMM; and 30 TAC Chapter 115.</p>	

Unit/Group/Process Information	
ID No.: D370	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 40 CFR Part 60, Subpart K	SOP Index No.: 60K-1
Pollutant: VOC	Main Standard: § 60.112(a)(1)
Monitoring Information	
Indicator: External Floating Roof	
Minimum Frequency: annually	
Averaging Period: n/a	
Deviation Limit: If a failure cannot be repaired within 60 days and if the storage tank cannot be emptied within 60 days, the owner or operator may submit written requests for up to two extensions of up to 30 additional days each to the appropriate regional office.	
<p>Basis of monitoring:</p> <p>The option to monitor VOC emissions by visually inspecting the external floating roof or the internal floating roof was included as an option by the EPA in the “Periodic Monitoring Technical Reference Document” (April 1999) to monitor VOC sources. If the external or internal floating roof is operating in accordance with its design it will meet its control efficiency. Visually inspecting the external floating roof or the internal floating roof is commonly required in federal and state rules, including: 40 CFR Part 60, Subpart Kb; 40 CFR Part 61, Subpart Y; and 30 TAC Chapter 115. Measuring and recording the accumulated area of gaps if the tank is equipped with primary seals is commonly required in federal and state rules, including: 40 CFR Part 60, Subpart Kb; 40 CFR Part 61, Subpart Y; 40 CFR 63 Subparts VV, DD, and MMM; and 30 TAC Chapter 115.</p>	

Unit/Group/Process Information	
ID No.: D371	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 40 CFR Part 60, Subpart K	SOP Index No.: 60K-1
Pollutant: VOC	Main Standard: § 60.112(a)(1)
Monitoring Information	
Indicator: External Floating Roof	
Minimum Frequency: annually	
Averaging Period: n/a	
Deviation Limit: If a failure cannot be repaired within 60 days and if the storage tank cannot be emptied within 60 days, the owner or operator may submit written requests for up to two extensions of up to 30 additional days each to the appropriate regional office.	
<p>Basis of monitoring:</p> <p>The option to monitor VOC emissions by visually inspecting the external floating roof or the internal floating roof was included as an option by the EPA in the “Periodic Monitoring Technical Reference Document” (April 1999) to monitor VOC sources. If the external or internal floating roof is operating in accordance with its design it will meet its control efficiency. Visually inspecting the external floating roof or the internal floating roof is commonly required in federal and state rules, including: 40 CFR Part 60, Subpart Kb; 40 CFR Part 61, Subpart Y; and 30 TAC Chapter 115. Measuring and recording the accumulated area of gaps if the tank is equipped with primary seals is commonly required in federal and state rules, including: 40 CFR Part 60, Subpart Kb; 40 CFR Part 61, Subpart Y; 40 CFR 63 Subparts VV, DD, and MMM; and 30 TAC Chapter 115.</p>	

Unit/Group/Process Information	
ID No.: F361	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 40 CFR Part 60, Subpart K	SOP Index No.: 60K-1
Pollutant: VOC	Main Standard: § 60.112(a)(1)
Monitoring Information	
Indicator: External Floating Roof	
Minimum Frequency: annually	
Averaging Period: n/a	
Deviation Limit: If a failure cannot be repaired within 60 days and if the storage tank cannot be emptied within 60 days, the owner or operator may submit written requests for up to two extensions of up to 30 additional days each to the appropriate regional office.	
<p>Basis of monitoring:</p> <p>The option to monitor VOC emissions by visually inspecting the external floating roof or the internal floating roof was included as an option by the EPA in the "Periodic Monitoring Technical Reference Document" (April 1999) to monitor VOC sources. If the external or internal floating roof is operating in accordance with its design it will meet its control efficiency. Visually inspecting the external floating roof or the internal floating roof is commonly required in federal and state rules, including: 40 CFR Part 60, Subpart Kb; 40 CFR Part 61, Subpart Y; and 30 TAC Chapter 115. Measuring and recording the accumulated area of gaps if the tank is equipped with primary seals is commonly required in federal and state rules, including: 40 CFR Part 60, Subpart Kb; 40 CFR Part 61, Subpart Y; 40 CFR 63 Subparts VV, DD, and MMM; and 30 TAC Chapter 115.</p>	

Unit/Group/Process Information	
ID No.: FOL150	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: OPACITY	Main Standard: § 111.111(a)(1)(A)
Monitoring Information	
Indicator: Visible emissions	
Minimum Frequency: once per quarter	
Averaging Period: n/a	
Deviation Limit: Visible emissions shall not exceed 30% opacity averaged over a six-minute period.	
<p>Basis of monitoring:</p> <p>The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Opacity and visible emissions have been used as an indicator of particulate emissions in many federal rules including 40 CFR Part 60, Subpart F and Subpart HH. In addition, use of these indicators is consistent with the EPA's "Compliance Assurance Monitoring (CAM) Technical Guidance Document" (August 1998). Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA's Test Method 9 for determining opacity by visual observations and the requirements of 40 CFR § 60.13 for a continuous opacity monitoring system (COMS). The monitoring specifications and procedures for the visible emissions monitoring are similar to "EPA Reference Method 22" procedures.</p>	

Unit/Group/Process Information	
ID No.: FOL160	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: OPACITY	Main Standard: § 111.111(a)(1)(A)
Monitoring Information	
Indicator: Visible emissions	
Minimum Frequency: once per quarter	
Averaging Period: n/a	
Deviation Limit: Visible emissions shall not exceed 30% opacity averaged over a six-minute period.	
<p>Basis of monitoring:</p> <p>The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Opacity and visible emissions have been used as an indicator of particulate emissions in many federal rules including 40 CFR Part 60, Subpart F and Subpart HH. In addition, use of these indicators is consistent with the EPA's "Compliance Assurance Monitoring (CAM) Technical Guidance Document" (August 1998). Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA's Test Method 9 for determining opacity by visual observations and the requirements of 40 CFR § 60.13 for a continuous opacity monitoring system (COMS). The monitoring specifications and procedures for the visible emissions monitoring are similar to "EPA Reference Method 22" procedures.</p>	

Unit/Group/Process Information	
ID No.: FOL170	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: OPACITY	Main Standard: § 111.111(a)(1)(A)
Monitoring Information	
Indicator: Visible emissions	
Minimum Frequency: once per quarter	
Averaging Period: n/a	
Deviation Limit: Visible emissions shall not exceed 30% opacity averaged over a six-minute period.	
<p>Basis of monitoring:</p> <p>The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Opacity and visible emissions have been used as an indicator of particulate emissions in many federal rules including 40 CFR Part 60, Subpart F and Subpart HH. In addition, use of these indicators is consistent with the EPA's "Compliance Assurance Monitoring (CAM) Technical Guidance Document" (August 1998). Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA's Test Method 9 for determining opacity by visual observations and the requirements of 40 CFR § 60.13 for a continuous opacity monitoring system (COMS). The monitoring specifications and procedures for the visible emissions monitoring are similar to "EPA Reference Method 22" procedures.</p>	

Unit/Group/Process Information	
ID No.: FOL180	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: OPACITY	Main Standard: § 111.111(a)(1)(A)
Monitoring Information	
Indicator: Visible emissions	
Minimum Frequency: once per quarter	
Averaging Period: n/a	
Deviation Limit: Visible emissions shall not exceed 30% opacity averaged over a six-minute period.	
<p>Basis of monitoring:</p> <p>The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Opacity and visible emissions have been used as an indicator of particulate emissions in many federal rules including 40 CFR Part 60, Subpart F and Subpart HH. In addition, use of these indicators is consistent with the EPA's "Compliance Assurance Monitoring (CAM) Technical Guidance Document" (August 1998). Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA's Test Method 9 for determining opacity by visual observations and the requirements of 40 CFR § 60.13 for a continuous opacity monitoring system (COMS). The monitoring specifications and procedures for the visible emissions monitoring are similar to "EPA Reference Method 22" procedures.</p>	

Unit/Group/Process Information	
ID No.: FOL190	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: OPACITY	Main Standard: § 111.111(a)(1)(A)
Monitoring Information	
Indicator: Visible emissions	
Minimum Frequency: once per quarter	
Averaging Period: n/a	
Deviation Limit: Visible emissions shall not exceed 30% opacity averaged over a six-minute period.	
<p>Basis of monitoring:</p> <p>The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Opacity and visible emissions have been used as an indicator of particulate emissions in many federal rules including 40 CFR Part 60, Subpart F and Subpart HH. In addition, use of these indicators is consistent with the EPA's "Compliance Assurance Monitoring (CAM) Technical Guidance Document" (August 1998). Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA's Test Method 9 for determining opacity by visual observations and the requirements of 40 CFR § 60.13 for a continuous opacity monitoring system (COMS). The monitoring specifications and procedures for the visible emissions monitoring are similar to "EPA Reference Method 22" procedures.</p>	

Unit/Group/Process Information	
ID No.: FOL601	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: OPACITY	Main Standard: § 111.111(a)(1)(A)
Monitoring Information	
Indicator: Visible emissions	
Minimum Frequency: once per quarter	
Averaging Period: n/a	
Deviation Limit: Visible emissions shall not exceed 30% opacity averaged over a six-minute period.	
<p>Basis of monitoring:</p> <p>The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Opacity and visible emissions have been used as an indicator of particulate emissions in many federal rules including 40 CFR Part 60, Subpart F and Subpart HH. In addition, use of these indicators is consistent with the EPA's "Compliance Assurance Monitoring (CAM) Technical Guidance Document" (August 1998). Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA's Test Method 9 for determining opacity by visual observations and the requirements of 40 CFR § 60.13 for a continuous opacity monitoring system (COMS). The monitoring specifications and procedures for the visible emissions monitoring are similar to "EPA Reference Method 22" procedures.</p>	

Unit/Group/Process Information	
ID No.: FOL602	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: OPACITY	Main Standard: § 111.111(a)(1)(A)
Monitoring Information	
Indicator: Visible emissions	
Minimum Frequency: once per quarter	
Averaging Period: n/a	
Deviation Limit: Visible emissions shall not exceed 30% opacity averaged over a six-minute period.	
<p>Basis of monitoring:</p> <p>The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Opacity and visible emissions have been used as an indicator of particulate emissions in many federal rules including 40 CFR Part 60, Subpart F and Subpart HH. In addition, use of these indicators is consistent with the EPA's "Compliance Assurance Monitoring (CAM) Technical Guidance Document" (August 1998). Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA's Test Method 9 for determining opacity by visual observations and the requirements of 40 CFR § 60.13 for a continuous opacity monitoring system (COMS). The monitoring specifications and procedures for the visible emissions monitoring are similar to "EPA Reference Method 22" procedures.</p>	

Unit/Group/Process Information	
ID No.: FOL603	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: OPACITY	Main Standard: § 111.111(a)(1)(A)
Monitoring Information	
Indicator: Visible emissions	
Minimum Frequency: once per quarter	
Averaging Period: n/a	
Deviation Limit: Visible emissions shall not exceed 30% opacity averaged over a six-minute period.	
<p>Basis of monitoring:</p> <p>The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Opacity and visible emissions have been used as an indicator of particulate emissions in many federal rules including 40 CFR Part 60, Subpart F and Subpart HH. In addition, use of these indicators is consistent with the EPA's "Compliance Assurance Monitoring (CAM) Technical Guidance Document" (August 1998). Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA's Test Method 9 for determining opacity by visual observations and the requirements of 40 CFR § 60.13 for a continuous opacity monitoring system (COMS). The monitoring specifications and procedures for the visible emissions monitoring are similar to "EPA Reference Method 22" procedures.</p>	

Unit/Group/Process Information	
ID No.: FOL604	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: OPACITY	Main Standard: § 111.111(a)(1)(A)
Monitoring Information	
Indicator: Visible emissions	
Minimum Frequency: once per quarter	
Averaging Period: n/a	
Deviation Limit: Visible emissions shall not exceed 30% opacity averaged over a six-minute period.	
<p>Basis of monitoring:</p> <p>The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Opacity and visible emissions have been used as an indicator of particulate emissions in many federal rules including 40 CFR Part 60, Subpart F and Subpart HH. In addition, use of these indicators is consistent with the EPA's "Compliance Assurance Monitoring (CAM) Technical Guidance Document" (August 1998). Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA's Test Method 9 for determining opacity by visual observations and the requirements of 40 CFR § 60.13 for a continuous opacity monitoring system (COMS). The monitoring specifications and procedures for the visible emissions monitoring are similar to "EPA Reference Method 22" procedures.</p>	

Unit/Group/Process Information	
ID No.: FOL700	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: OPACITY	Main Standard: § 111.111(a)(1)(A)
Monitoring Information	
Indicator: Visible emissions	
Minimum Frequency: once per quarter	
Averaging Period: n/a	
Deviation Limit: Visible emissions shall not exceed 30% opacity averaged over a six-minute period.	
<p>Basis of monitoring:</p> <p>The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Opacity and visible emissions have been used as an indicator of particulate emissions in many federal rules including 40 CFR Part 60, Subpart F and Subpart HH. In addition, use of these indicators is consistent with the EPA's "Compliance Assurance Monitoring (CAM) Technical Guidance Document" (August 1998). Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA's Test Method 9 for determining opacity by visual observations and the requirements of 40 CFR § 60.13 for a continuous opacity monitoring system (COMS). The monitoring specifications and procedures for the visible emissions monitoring are similar to "EPA Reference Method 22" procedures.</p>	

Unit/Group/Process Information	
ID No.: FOL710	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: OPACITY	Main Standard: § 111.111(a)(1)(A)
Monitoring Information	
Indicator: Visible emissions	
Minimum Frequency: once per quarter	
Averaging Period: n/a	
Deviation Limit: Visible emissions shall not exceed 30% opacity averaged over a six-minute period.	
<p>Basis of monitoring:</p> <p>The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Opacity and visible emissions have been used as an indicator of particulate emissions in many federal rules including 40 CFR Part 60, Subpart F and Subpart HH. In addition, use of these indicators is consistent with the EPA's "Compliance Assurance Monitoring (CAM) Technical Guidance Document" (August 1998). Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA's Test Method 9 for determining opacity by visual observations and the requirements of 40 CFR § 60.13 for a continuous opacity monitoring system (COMS). The monitoring specifications and procedures for the visible emissions monitoring are similar to "EPA Reference Method 22" procedures.</p>	

Unit/Group/Process Information	
ID No.: G343	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 40 CFR Part 60, Subpart K	SOP Index No.: 60K-1
Pollutant: VOC	Main Standard: § 60.112(a)(1)
Monitoring Information	
Indicator: External Floating Roof	
Minimum Frequency: annually	
Averaging Period: n/a	
Deviation Limit: If a failure cannot be repaired within 60 days and if the storage tank cannot be emptied within 60 days, the owner or operator may submit written requests for up to two extensions of up to 30 additional days each to the appropriate regional office.	
<p>Basis of monitoring:</p> <p>The option to monitor VOC emissions by visually inspecting the external floating roof or the internal floating roof was included as an option by the EPA in the "Periodic Monitoring Technical Reference Document" (April 1999) to monitor VOC sources. If the external or internal floating roof is operating in accordance with its design it will meet its control efficiency. Visually inspecting the external floating roof or the internal floating roof is commonly required in federal and state rules, including: 40 CFR Part 60, Subpart Kb; 40 CFR Part 61, Subpart Y; and 30 TAC Chapter 115. Measuring and recording the accumulated area of gaps if the tank is equipped with primary seals is commonly required in federal and state rules, including: 40 CFR Part 60, Subpart Kb; 40 CFR Part 61, Subpart Y; 40 CFR 63 Subparts VV, DD, and MMM; and 30 TAC Chapter 115.</p>	

Unit/Group/Process Information	
ID No.: G344	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 40 CFR Part 60, Subpart K	SOP Index No.: 60K-1
Pollutant: VOC	Main Standard: § 60.112(a)(1)
Monitoring Information	
Indicator: External Floating Roof	
Minimum Frequency: annually	
Averaging Period: n/a	
<p>Deviation Limit: If a failure cannot be repaired within 60 days and if the storage tank cannot be emptied within 60 days, the owner or operator may submit written requests for up to two extensions of up to 30 additional days each to the appropriate regional office.</p> <p>Basis of monitoring: The option to monitor VOC emissions by visually inspecting the external floating roof or the internal floating roof was included as an option by the EPA in the "Periodic Monitoring Technical Reference Document" (April 1999) to monitor VOC sources. If the external or internal floating roof is operating in accordance with its design it will meet its control efficiency. Visually inspecting the external floating roof or the internal floating roof is commonly required in federal and state rules, including: 40 CFR Part 60, Subpart Kb; 40 CFR Part 61, Subpart Y; and 30 TAC Chapter 115. Measuring and recording the accumulated area of gaps if the tank is equipped with primary seals is commonly required in federal and state rules, including: 40 CFR Part 60, Subpart Kb; 40 CFR Part 61, Subpart Y; 40 CFR 63 Subparts VV, DD, and MMM; and 30 TAC Chapter 115.</p>	

Unit/Group/Process Information	
ID No.: GRPFURN2	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 112, Sulfur Compounds	SOP Index No.: REG2-1
Pollutant: SO2	Main Standard: § 112.9(c)
Monitoring Information	
Indicator: Sulfur content of fuel	
Minimum Frequency: Once per quarter and within 24 hours of any fuel change	
Averaging Period: Every three hours	
Deviation Limit: Sulfur content of liquid fuel exceeds 0.3 weight percent, averaged over 3 hours. Any data above 0.3 weight percent, averaged over 3 hours shall be considered and reported as a deviation.	
Basis of monitoring: A common way to determine SO2 emissions is by determining the amount (percentage) of sulfur in fuel combusted by an emission unit. This quantity along with stack flow rate and quantity of fuel combusted may be used to calculate the amount of SO2 emitted to the atmosphere.	

Unit/Group/Process Information	
ID No.: GRPFURN4	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 112, Sulfur Compounds	SOP Index No.: REG2-1
Pollutant: SO ₂	Main Standard: § 112.9(c)
Monitoring Information	
Indicator: Sulfur content of the fuel.	
Minimum Frequency: Once per quarter and within 24 hours of any fuel change	
Averaging Period: Every three hours	
Deviation Limit: Sulfur content of liquid fuel exceeds 0.3 weight percent, averaged over 3 hours. Any data above 0.3 weight percent, averaged over 3 hours shall be considered and reported as a deviation	
Basis of monitoring: A common way to determine SO ₂ emissions is by determining the amount (percentage) of sulfur in fuel combusted by an emission unit. This quantity along with stack flow rate and quantity of fuel combusted may be used to calculate the amount of SO ₂ emitted to the atmosphere.	

Unit/Group/Process Information	
ID No.: H1300	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: OPACITY	Main Standard: § 111.111(a)(1)(A)
Monitoring Information	
Indicator: Visible emissions	
Minimum Frequency: once per quarter	
Averaging Period: n/a	
Deviation Limit: Visible emissions shall not exceed 30% opacity averaged over a six-minute period.	
<p>Basis of monitoring:</p> <p>The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Opacity and visible emissions have been used as an indicator of particulate emissions in many federal rules including 40 CFR Part 60, Subpart F and Subpart HH. In addition, use of these indicators is consistent with the EPA's "Compliance Assurance Monitoring (CAM) Technical Guidance Document" (August 1998). Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA's Test Method 9 for determining opacity by visual observations and the requirements of 40 CFR § 60.13 for a continuous opacity monitoring system (COMS). The monitoring specifications and procedures for the visible emissions monitoring are similar to "EPA Reference Method 22" procedures.</p>	

Unit/Group/Process Information	
ID No.: H87920	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 112, Sulfur Compounds	SOP Index No.: REG2-1
Pollutant: SO ₂	Main Standard: § 112.9(c)
Monitoring Information	
Indicator: Sulfur content of fuel	
Minimum Frequency: Quarterly and within 24 hours of any fuel change	
Averaging Period: Every three hours	
Deviation Limit: Sulfur content of liquid fuel exceeds 0.3 weight percent averaged over 3 hours. Any data above 0.3 weight percent, averaged over 3 hours, shall be considered and reported as a deviation.	
Basis of monitoring: A common way to determine SO ₂ emissions is by determining the amount (percentage) of sulfur in fuel combusted by an emission unit. This quantity along with stack flow rate and quantity of fuel combusted may be used to calculate the amount of SO ₂ emitted to the atmosphere.	

Unit/Group/Process Information	
ID No.: OP2ACMAP	
Control Device ID No.: FOL140	Control Device Type: Steam Generating Unit (Boiler)/Process Heater (Design heat input is greater than or equal to 44MW)
Control Device ID No.: FOL150	Control Device Type: Steam Generating Unit (Boiler)/Process Heater (Design heat input is greater than or equal to 44MW)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R5121-1
Pollutant: VOC	Main Standard: § 115.121(a)(1)
Monitoring Information	
Indicator: Period of Operation	
Minimum Frequency: n/a	
Averaging Period: n/a	
Deviation Limit: Failure to monitor and record during periods of operation	
<p>Basis of monitoring:</p> <p>A common way to control VOC emissions is to route emissions to a boiler or process heater with a design heat input capacity of 44 MW or greater with minimum temperatures of 1100 °C and residence times greater than one second. Boilers and process heaters with the stated design have demonstrated to meet 98% reduction efficiency; therefore, it is only necessary to document the period of operation of the control equipment. Additionally, in the October, 21, 1983 preamble to 40 CFR Part 60, Subpart III, (48 FR 48945), the EPA determined that installing a steam generating unit, with a design heat input capacity of 44 MW or greater, to control VOC emissions, is an acceptable means of demonstrating compliance with 40 CFR Part 60, Subpart III and waived the requirement for a performance test on such devices. Monitoring the period of operation of a boiler/process heater greater than 44 MW is commonly required in federal rules, including: 40 CFR Part 60, Subparts III and NNN; 40 CFR Part 61, Subpart BB; 40 CFR Part 63, Subpart G.</p>	

Unit/Group/Process Information	
ID No.: OP2DECOK	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: OPACITY	Main Standard: § 111.111(a)(1)(A)
Monitoring Information	
Indicator: Visible emissions	
Minimum Frequency: once per quarter	
Averaging Period: n/a	
Deviation Limit: Visible emissions shall not exceed 30% opacity averaged over a six-minute period.	
<p>Basis of monitoring:</p> <p>The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Opacity and visible emissions have been used as an indicator of particulate emissions in many federal rules including 40 CFR Part 60, Subpart F and Subpart HH. In addition, use of these indicators is consistent with the EPA's "Compliance Assurance Monitoring (CAM) Technical Guidance Document" (August 1998). Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA's Test Method 9 for determining opacity by visual observations and the requirements of 40 CFR § 60.13 for a continuous opacity monitoring system (COMS). The monitoring specifications and procedures for the visible emissions monitoring are similar to "EPA Reference Method 22" procedures.</p>	

Unit/Group/Process Information	
ID No.: TOL911	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 40 CFR Part 60, Subpart K	SOP Index No.: 60K-1
Pollutant: VOC	Main Standard: § 60.112(a)(1)
Monitoring Information	
Indicator: External Floating Roof	
Minimum Frequency: annually	
Averaging Period: n/a	
Deviation Limit: If a failure cannot be repaired within 60 days and if the storage tank cannot be emptied within 60 days, the owner or operator may submit written requests for up to two extensions of up to 30 additional days each to the appropriate regional office.	
<p>Basis of monitoring:</p> <p>The option to monitor VOC emissions by visually inspecting the external floating roof or the internal floating roof was included as an option by the EPA in the "Periodic Monitoring Technical Reference Document" (April 1999) to monitor VOC sources. If the external or internal floating roof is operating in accordance with its design it will meet its control efficiency. Visually inspecting the external floating roof or the internal floating roof is commonly required in federal and state rules, including: 40 CFR Part 60, Subpart Kb; 40 CFR Part 61, Subpart Y; and 30 TAC Chapter 115. Measuring and recording the accumulated area of gaps if the tank is equipped with primary seals is commonly required in federal and state rules, including: 40 CFR Part 60, Subpart Kb; 40 CFR Part 61, Subpart Y; 40 CFR 63 Subparts VV, DD, and MMM; and 30 TAC Chapter 115.</p>	

Unit/Group/Process Information	
ID No.: TOL911	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 40 CFR Part 60, Subpart K	SOP Index No.: 60K-2
Pollutant: VOC	Main Standard: § 60.112(a)(1)
Monitoring Information	
Indicator: External Floating Roof	
Minimum Frequency: annually	
Averaging Period: n/a	
Deviation Limit: If a failure cannot be repaired within 60 days and if the storage tank cannot be emptied within 60 days, the owner or operator may submit written requests for up to two extensions of up to 30 additional days each to the appropriate regional office.	
<p>Basis of monitoring:</p> <p>The option to monitor VOC emissions by visually inspecting the external floating roof or the internal floating roof was included as an option by the EPA in the “Periodic Monitoring Technical Reference Document” (April 1999) to monitor VOC sources. If the external or internal floating roof is operating in accordance with its design it will meet its control efficiency. Visually inspecting the external floating roof or the internal floating roof is commonly required in federal and state rules, including: 40 CFR Part 60, Subpart Kb; 40 CFR Part 61, Subpart Y; and 30 TAC Chapter 115. Measuring and recording the accumulated area of gaps if the tank is equipped with primary seals is commonly required in federal and state rules, including: 40 CFR Part 60, Subpart Kb; 40 CFR Part 61, Subpart Y; 40 CFR 63 Subparts VV, DD, and MMM; and 30 TAC Chapter 115.</p>	

Unit/Group/Process Information	
ID No.: V8360	
Control Device ID No.: F8300	Control Device Type: Steam Generating Unit (Boiler)/Process Heater (Design heat input is greater than or equal to 44MW)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R5121-2
Pollutant: VOC	Main Standard: § 115.121(a)(2)
Monitoring Information	
Indicator: Period of Operation	
Minimum Frequency: n/a	
Averaging Period: n/a	
Deviation Limit: Failure to monitor and record during periods of operation.	
<p>Basis of monitoring:</p> <p>A common way to control VOC emissions is to route emissions to a boiler or process heater with a design heat input capacity of 44 MW or greater with minimum temperatures of 1100 °C and residence times greater than one second. Boilers and process heaters with the stated design have demonstrated to meet 98% reduction efficiency; therefore, it is only necessary to document the period of operation of the control equipment. Additionally, in the October, 21, 1983 preamble to 40 CFR Part 60, Subpart III, (48 FR 48945), the EPA determined that installing a steam generating unit, with a design heat input capacity of 44 MW or greater, to control VOC emissions, is an acceptable means of demonstrating compliance with 40 CFR Part 60, Subpart III and waived the requirement for a performance test on such devices. Monitoring the period of operation of a boiler/process heater greater than 44 MW is commonly required in federal rules, including: 40 CFR Part 60, Subparts III and NNN; 40 CFR Part 61, Subpart BB; 40 CFR Part 63, Subpart G.</p>	

Unit/Group/Process Information	
ID No.: VBD990	
Control Device ID No.: A1301	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R5112-1
Pollutant: VOC	Main Standard: 115.112
Monitoring Information	
Indicator: Visible Emissions	
Minimum Frequency: Once per day	
Averaging Period: n/a	
Deviation Limit: Observation of visible emissions exceeding 5 minutes in any two hour period during daily observations.	
<p>Basis of monitoring:</p> <p>It is widely practiced and accepted to monitor flares for visible emissions by closed circuit cameras and visual inspection. Visible emissions observations indicate that the flare is not efficiently combusting the emissions or there is incomplete combustion. Visible emissions can indicate an improper inlet flow rate or net heating value of the emissions routed to the flare. Monitoring visible emissions is commonly required in federal and state rules, including: 40 CFR Part 60, Subpart A; 30 TAC Chapter 111; and 30 TAC Chapter 115. This procedure is consistent with the EPA "CAM Technical Document" (August 1998) which provides an example of using "EPA Test Method 22-like" procedures for determining visible emissions.</p>	

Unit/Group/Process Information	
ID No.: VBD993	
Control Device ID No.: A1301	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R5112-1
Pollutant: VOC	Main Standard: 115.112
Monitoring Information	
Indicator: Visible Emissions	
Minimum Frequency: Once per day	
Averaging Period: n/a	
Deviation Limit: Observation of visible emissions exceeding 5 minutes in any two hour period during daily observations	
<p>Basis of monitoring:</p> <p>It is widely practiced and accepted to use performance tests, manufacturer's recommendations, engineering calculations and/or historical data to establish a minimum temperature for boilers/process heaters. This minimum temperature must be maintained in order for the proper destruction efficiency. Operation below the minimum combustion temperature will result in incomplete combustion and potential noncompliance with emission limitations and/or standards. The monitoring of combustion temperature of a boiler/process heater is commonly required in federal and state rules, including: 40 CFR Part 60, Subparts III, NNN, and RRR; 40 CFR Part 61, Subparts BB and FF; 40 CFR Part 63, Subparts G, DD, and HH; and 30 TAC Chapter 115</p>	

Unit/Group/Process Information	
ID No.: VBD994	
Control Device ID No.: A1301	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R5112-1
Pollutant: VOC	Main Standard: 115.112
Monitoring Information	
Indicator: Visible emissions	
Minimum Frequency: Once per day	
Averaging Period: n/a	
Deviation Limit: Observation of visible emissions exceeding 5 minutes in any two hour period during daily observations.	
<p>Basis of monitoring:</p> <p>It is widely practiced and accepted to use performance tests, manufacturer's recommendations, engineering calculations and/or historical data to establish a minimum temperature for boilers/process heaters. This minimum temperature must be maintained in order for the proper destruction efficiency. Operation below the minimum combustion temperature will result in incomplete combustion and potential noncompliance with emission limitations and/or standards. The monitoring of combustion temperature of a boiler/process heater is commonly required in federal and state rules, including: 40 CFR Part 60, Subparts III, NNN, and RRR; 40 CFR Part 61, Subparts BB and FF; 40 CFR Part 63, Subparts G, DD, and HH; and 30 TAC Chapter 115</p>	

Unit/Group/Process Information	
ID No.: VIP901	
Control Device ID No.: A1301	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R5112-1
Pollutant: VOC	Main Standard: 115.112
Monitoring Information	
Indicator: Visible emissions	
Minimum Frequency: Once per day	
Averaging Period: n/a	
Deviation Limit: Observation of visible emissions exceeding 5 minutes in any two hour period during daily observations.	
<p>Basis of monitoring:</p> <p>It is widely practiced and accepted to use performance tests, manufacturer's recommendations, engineering calculations and/or historical data to establish a minimum temperature for boilers/process heaters. This minimum temperature must be maintained in order for the proper destruction efficiency. Operation below the minimum combustion temperature will result in incomplete combustion and potential noncompliance with emission limitations and/or standards. The monitoring of combustion temperature of a boiler/process heater is commonly required in federal and state rules, including: 40 CFR Part 60, Subparts III, NNN, and RRR; 40 CFR Part 61, Subparts BB and FF; 40 CFR Part 63, Subparts G, DD, and HH; and 30 TAC Chapter 115.</p>	

Unit/Group/Process Information	
ID No.: VIP902	
Control Device ID No.: A1301	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R5112-1
Pollutant: VOC	Main Standard: 115.112
Monitoring Information	
Indicator: Visible emissions	
Minimum Frequency: Once per day	
Averaging Period: n/a	
Deviation Limit: Observation of visible emissions exceeding 5 minutes in any two hour period during daily observations.	
<p>Basis of monitoring:</p> <p>It is widely practiced and accepted to use performance tests, manufacturer's recommendations, engineering calculations and/or historical data to establish a minimum temperature for boilers/process heaters. This minimum temperature must be maintained in order for the proper destruction efficiency. Operation below the minimum combustion temperature will result in incomplete combustion and potential noncompliance with emission limitations and/or standards. The monitoring of combustion temperature of a boiler/process heater is commonly required in federal and state rules, including: 40 CFR Part 60, Subparts III, NNN, and RRR; 40 CFR Part 61, Subparts BB and FF; 40 CFR Part 63, Subparts G, DD, and HH; and 30 TAC Chapter 115.</p>	

Unit/Group/Process Information	
ID No.: VIP904	
Control Device ID No.: A1301	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R5112-1
Pollutant: VOC	Main Standard: 115.112
Monitoring Information	
Indicator: Visible emissions	
Minimum Frequency: once per day	
Averaging Period: n/a	
Deviation Limit: Observation of visible emissions exceeding 5 minutes in any two hour period during daily observations.	
<p>Basis of monitoring:</p> <p>It is widely practiced and accepted to use performance tests, manufacturer's recommendations, engineering calculations and/or historical data to establish a minimum temperature for boilers/process heaters. This minimum temperature must be maintained in order for the proper destruction efficiency. Operation below the minimum combustion temperature will result in incomplete combustion and potential noncompliance with emission limitations and/or standards. The monitoring of combustion temperature of a boiler/process heater is commonly required in federal and state rules, including: 40 CFR Part 60, Subparts III, NNN, and RRR; 40 CFR Part 61, Subparts BB and FF; 40 CFR Part 63, Subparts G, DD, and HH; and 30 TAC Chapter 115.</p>	

Unit/Group/Process Information	
ID No.: VIP905	
Control Device ID No.: A1301	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R5112-1
Pollutant: VOC	Main Standard: 115.112
Monitoring Information	
Indicator: Visible emissions	
Minimum Frequency: Once per day	
Averaging Period: n/a	
Deviation Limit: Observation of visible emissions exceeding 5 minutes in any two hour period during daily observations.	
<p>Basis of monitoring:</p> <p>It is widely practiced and accepted to use performance tests, manufacturer's recommendations, engineering calculations and/or historical data to establish a minimum temperature for boilers/process heaters. This minimum temperature must be maintained in order for the proper destruction efficiency. Operation below the minimum combustion temperature will result in incomplete combustion and potential noncompliance with emission limitations and/or standards. The monitoring of combustion temperature of a boiler/process heater is commonly required in federal and state rules, including: 40 CFR Part 60, Subparts III, NNN, and RRR; 40 CFR Part 61, Subparts BB and FF; 40 CFR Part 63, Subparts G, DD, and HH; and 30 TAC Chapter 115.</p>	

Unit/Group/Process Information	
ID No.: VP31142	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: OPACITY	Main Standard: § 111.111(a)(1)(A)
Monitoring Information	
Indicator: Visible emissions	
Minimum Frequency: once per quarter	
Averaging Period: n/a	
Deviation Limit: Visible emissions shall not exceed 30% opacity averaged over a six-minute period.	
<p>Basis of monitoring:</p> <p>The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Opacity and visible emissions have been used as an indicator of particulate emissions in many federal rules including 40 CFR Part 60, Subpart F and Subpart HH. In addition, use of these indicators is consistent with the EPA's "Compliance Assurance Monitoring (CAM) Technical Guidance Document" (August 1998). Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA's Test Method 9 for determining opacity by visual observations and the requirements of 40 CFR § 60.13 for a continuous opacity monitoring system (COMS). The monitoring specifications and procedures for the visible emissions monitoring are similar to "EPA Reference Method 22" procedures.</p>	

Unit/Group/Process Information	
ID No.: VUT109	
Control Device ID No.: GRPFURN2	Control Device Type: Steam Generating Unit (Boiler)/Process Heater (Design heat input is greater than or equal to 44MW)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R5121-1
Pollutant: VOC	Main Standard: § 115.121(a)(2)
Monitoring Information	
Indicator: Period of Operation	
Minimum Frequency: n/a	
Averaging Period: n/a	
Deviation Limit: Failure to monitor and record during periods of operation.	
<p>Basis of monitoring:</p> <p>A common way to control VOC emissions is to route emissions to a boiler or process heater with a design heat input capacity of 44 MW or greater with minimum temperatures of 1100 °C and residence times greater than one second. Boilers and process heaters with the stated design have demonstrated to meet 98% reduction efficiency; therefore, it is only necessary to document the period of operation of the control equipment. Additionally, in the October, 21, 1983 preamble to 40 CFR Part 60, Subpart III, (48 FR 48945), the EPA determined that installing a steam generating unit, with a design heat input capacity of 44 MW or greater, to control VOC emissions, is an acceptable means of demonstrating compliance with 40 CFR Part 60, Subpart III and waived the requirement for a performance test on such devices. Monitoring the period of operation of a boiler/process heater greater than 44 MW is commonly required in federal rules, including: 40 CFR Part 60, Subparts III and NNN; 40 CFR Part 61, Subpart BB; 40 CFR Part 63, Subpart G.</p>	

Available Unit Attribute Forms

OP-UA1 - Miscellaneous and Generic Unit Attributes
OP-UA2 - Stationary Reciprocating Internal Combustion Engine Attributes
OP-UA3 - Storage Tank/Vessel Attributes
OP-UA4 - Loading/Unloading Operations Attributes
OP-UA5 - Process Heater/Furnace Attributes
OP-UA6 - Boiler/Steam Generator/Steam Generating Unit Attributes
OP-UA7 - Flare Attributes
OP-UA8 - Coal Preparation Plant Attributes
OP-UA9 - Nonmetallic Mineral Process Plant Attributes
OP-UA10 - Gas Sweetening/Sulfur Recovery Unit Attributes
OP-UA11 - Stationary Turbine Attributes
OP-UA12 - Fugitive Emission Unit Attributes
OP-UA13 - Industrial Process Cooling Tower Attributes
OP-UA14 - Water Separator Attributes
OP-UA15 - Emission Point/Stationary Vent/Distillation Operation/Process Vent Attributes
OP-UA16 - Solvent Degreasing Machine Attributes
OP-UA17 - Distillation Unit Attributes
OP-UA18 - Surface Coating Operations Attributes
OP-UA19 - Wastewater Unit Attributes
OP-UA20 - Asphalt Operations Attributes
OP-UA21 - Grain Elevator Attributes
OP-UA22 - Printing Attributes
OP-UA24 - Wool Fiberglass Insulation Manufacturing Plant Attributes
OP-UA25 - Synthetic Fiber Production Attributes
OP-UA26 - Electroplating and Anodizing Unit Attributes
OP-UA27 - Nitric Acid Manufacturing Attributes
OP-UA28 - Polymer Manufacturing Attributes
OP-UA29 - Glass Manufacturing Unit Attributes
OP-UA30 - Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mill Attributes
OP-UA31 - Lead Smelting Attributes
OP-UA32 - Copper and Zinc Smelting/Brass and Bronze Production Attributes
OP-UA33 - Metallic Mineral Processing Plant Attributes
OP-UA34 - Pharmaceutical Manufacturing
OP-UA35 - Incinerator Attributes
OP-UA36 - Steel Plant Unit Attributes
OP-UA37 - Basic Oxygen Process Furnace Unit Attributes
OP-UA38 - Lead-Acid Battery Manufacturing Plant Attributes
OP-UA39 - Sterilization Source Attributes
OP-UA40 - Ferroalloy Production Facility Attributes
OP-UA41 - Dry Cleaning Facility Attributes
OP-UA42 - Phosphate Fertilizer Manufacturing Attributes
OP-UA43 - Sulfuric Acid Production Attributes
OP-UA44 - Municipal Solid Waste Landfill/Waste Disposal Site Attributes
OP-UA45 - Surface Impoundment Attributes
OP-UA46 - Epoxy Resins and Non-Nylon Polyamides Production Attributes
OP-UA47 - Ship Building and Ship Repair Unit Attributes
OP-UA48 - Air Oxidation Unit Process Attributes
OP-UA49 - Vacuum-Producing System Attributes
OP-UA50 - Fluid Catalytic Cracking Unit Catalyst Regenerator/Fuel Gas Combustion Device/Claus Sulfur Recovery Plant Attributes
OP-UA51 - Dryer/Kiln/Oven Attributes
OP-UA52 - Closed Vent Systems and Control Devices
OP-UA53 - Beryllium Processing Attributes

OP-UA54 - Mercury Chlor-Alkali Cell Attributes
OP-UA55 - Transfer System Attributes
OP-UA56 - Vinyl Chloride Process Attributes
OP-UA57 - Cleaning/Depainting Operation Attributes
OP-UA58 - Treatment Process Attributes
OP-UA59 - Coke By-Product Recovery Plant Attributes
OP-UA60 - Chemical Manufacturing Process Unit Attributes
OP-UA61 - Pulp, Paper, or Paperboard Producing Process Attributes
OP-UA62 - Glycol Dehydration Unit Attributes
OP-UA63 - Vegetable Oil Production Attributes

APPENDIX F

CEMSETS:

**A Comprehensive Emissions Modeling Spreadsheet for
Effluent Treatment Systems**

**Charles L. Meyer
Paul T. Sun**

*Environmental R,D,&T
Shell Development Company*

November 6, 1992

CEMSETS: A Comprehensive Emissions Modeling Spreadsheet for Effluent Treatment Systems

Charles L. Meyer and Paul T. Sun

Introduction

Emissions of volatile chemicals to the air have come under increasing scrutiny in recent years, leading to the need for better methods for quantifying these emissions. Many early efforts at determining chemical losses to the air were aimed at minimizing these losses for economic reasons - lost product or feedstock meant lost revenue. Human health and environmental concerns have since replaced economic concerns as the principle driving force in estimating and controlling emissions. Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) requires manufacturing facilities to report releases of a broad array of chemicals to the environment and makes these reports available to the public. As a result of this provision of SARA and related regulatory programs, methods for estimating emissions have received significant attention from state and federal regulatory agencies, industry, and environmental groups. Additional applications which make use of emissions estimates, such as facility health risk assessments and early emissions reduction or emissions trading programs, will require sophisticated, defensible, and well-documented procedures for estimating emissions.

Wastewater treatment systems can be significant sources of chemical emissions to the air. In recognition of this, air-related regulatory initiatives, such as benzene NESHAPS, are beginning to include effluent treatment systems as part of their scope. Proper allocation of emissions may affect how such regulations impact the effluent treatment system for a facility. Because of the nature of the processes making up effluent treatment systems, measurement of the emissions is often not possible and estimates based on process models must be used. Thus, there is a real need for reliable emissions models for wastewater treatment systems.

The emissions modeling program described in this report was developed in response to this need as evidenced by requests from several Shell manufacturing locations for emission estimation procedures for wastewater treatment systems. The program can be used to estimate compound-specific emission rates for a variety of continuous-flow wastewater treatment process units. It is hoped that this program will meet Shell's needs in this area by providing an easy-to-use computer model incorporating the most up-to-date procedures which will be both technically defensible and acceptable to applicable regulatory agencies. To accomplish this latter objective, EPA models were used when available and were modified only to the extent necessary to resolve serious technical shortcomings.

The general modeling approach and the specific model equations used are described below, along with any deviations from EPA procedures. The required input data are also discussed and the implementation of the model equations into a computer spreadsheet program is described. As additional information or better modeling approaches become available, the models will be updated and the spreadsheet program revised accordingly.

General Approach

Emissions rates and factors for each unit in the effluent treatment or slop oil system are estimated using models based upon the volatilization mechanisms associated with that type of unit or process [1,2]. Each model takes into account the various possible fate paths (e.g. biodegradation) for the associated process unit.

The basic approach for estimating emissions to the air is based on the so-called two-film theory, in which mass transfer to the air is controlled by diffusion through stagnant liquid and gas layers near the air-liquid interface [1]. The flux (mass flow rate per unit area) of a particular compound from water across the interface is given by the following equation:

$$\text{flux (mass/time/area)} = K_{OL} \left[C_L - \frac{C_G}{H} \right] \quad (1)$$

where C_L is the mass concentration of the component of interest in the bulk liquid, C_G is the mass concentration of the component of interest in the bulk gas phase, and H is the gas-liquid equilibrium partition coefficient and is equal to the Henry's Law constant divided by the absolute temperature and the gas constant: $H = H/RT$. K_{OL} is the overall liquid-phase mass transfer coefficient and is determined from the liquid and gas phase mass transfer coefficients and gas-liquid partition coefficient as follows:

$$\frac{1}{K_{OL}} = \frac{1}{K_L} + \frac{1}{H K_G} \quad (2)$$

Except for weirs and fixed-roof tanks, every process or unit in the effluent treatment system has eq. (1) as a basis for its emissions model. How this equation is integrated to give the emissions for a process or unit, along with how the parameters and process variables, K_L , K_G , C_L , and C_G , are determined, depends upon the configuration and other fate paths of the particular process or unit. Each process or unit fell into one of 13 categories for which a particular model was used. A brief description of how eq. (1) is applied to each of these categories and how the various parameters are determined is given next.

Emissions Model Equations

Open-Top Tanks and Basins (TANK). For open-top tanks and basins, the Hazardous Waste TSDF emission model [1, chapter 4] was used as a basis. Mass transfer occurs at the surface and at the gas-liquid interface of submerged air bubbles if there is any aeration in the vessel. Emissions from the surface of the liquid are determined by multiplying the flux from eq. (1) by the total liquid surface area. The gas phase concentration at the surface of an open tank is usually negligible, so $C_G = 0$ is a good simplifying assumption. For submerged air bubbles, equilibrium with the liquid is usually attained after only a few feet of rise, so the emission rate due to submerged aeration is calculated by multiplying the submerged air flow rate by the equilibrium concentration in the air bubbles. Total emissions for open-top tanks or basins is then given by:

$$E = K_{OL} A C_L + Q_{air} H C_L \quad (3)$$

where E is the emission rate, A is the exposed liquid surface area, and Q_{air} is the submerged air flow rate for aerated vessels.

If C_L is not known, it can be estimated from the inlet concentration, C_0 , using a mass balance on the chemical of interest, taking into account all the possible fate paths, including biodegradation. For many compounds in refinery and chemical plant waste streams, biodegradation is typically first order at the low concentrations found in activated sludge systems. Thus, the rate of biodegradation would be given by the term $k_1 C_L C_b V$, where k_1 is the first-order rate constant, C_b is the biomass concentration in the tank, and V is the total volume of the tank. Assuming a complete-mixed tank, C_L is then given by:

$$C_L = \frac{F C_0}{K_{OL} A + Q_{air} H + k_1 C_b V + F} \quad (4)$$

where F is the liquid flow rate. For tanks or basins where there is no subsurface aeration or biodegradation, Q_{air} or C_b would be set equal to zero. Thus, given appropriate estimates of K_{OL} , eqs. (3) and (4) could be applied to a variety of units in an effluent treatment system, including clarifiers, equalization tanks, dissolved air flotation units, and biotreater aeration basins.

Values of the mass transfer coefficients, K_L and K_G , were estimated using literature correlations developed for various mixing and flow conditions as given in the Hazardous Waste TSDF Emissions Model document [1, chapter 4]. For tanks such as clarifiers and equalization tanks, correlations developed for quiescent conditions were used [1, Table 4-1]. For tanks and basins with surface aeration (e.g. aeration basins), turbulent mass transfer correlations were used for that fraction of the surface affected by the surface aerators [1, Table 4-6]. For small tanks with a high degree of mixing in the liquid due to high flow or a submerged mixer, K_L was determined for turbulent conditions.

The fraction emitted, f_e , can be obtained from eqs. (3) and (4):

$$f_e = \frac{E}{F C_0} = \frac{K_{OL} A + Q_{air} H C_L}{K_{OL} A + Q_{air} H + k_1 C_b V + F} \quad (5)$$

Oil-Covered Open Tanks and Basins (OCOT). For open tanks or basins covered with a layer of oil (e.g. oil/water separators), a similar approach was used. In this case, however, only mass transfer from the oil phase to the air is considered since oil-soluble compounds such as benzene would be expected to be found primarily in the oil phase at the surface of the tank. Because the oil layer is relatively thin, the liquid phase resistance was assumed to be negligible and only the gas-phase resistance is used. Raoult's Law is used to determine the equilibrium partition coefficient between the liquid (oil) and gas phase. This approach is the same as that used for the Hazardous Waste TSDF model [1, section 4.7]. The emission rate, E , is then given by the following equation:

$$E = \frac{k_g A P_i^{sat} MW_{oil}}{R T} C_{oil} \quad (6)$$

where P_i^{sat} is the vapor pressure of the component of interest at the liquid temperature, MW_{oil} is the average molecular weight of the oil phase, and C_{oil} is the mass fraction of the component in the oil phase.

If C_{oil} is not known, it can be estimated from the concentration in the incoming oil, assuming a well-mixed oil phase:

$$C_{oil} = \frac{C_{0,oil} F_{oil} \rho_{oil}}{F_{oil} \rho_{oil} + \frac{K_G A P_i^{sat} MW_{oil}}{RT}} \quad (7)$$

$C_{0,oil}$ is the component mass fraction in the incoming oil, F_{oil} is the oil flow rate, and ρ_{oil} is the density of the oil phase. Although the assumption of a well-mixed oil phase is not rigorously valid, it introduces little error except in the case of basins or tanks with a high length to width ratio. Eq. (7) also assumes no biodegradation or submerged aeration. K_G is estimated using the correlation for quiescent conditions from the TSDF model [1, Table 4-1].

If the concentration in the incoming oil phase is not known, it can be estimated from the concentration in the incoming water phase if the two phases are at equilibrium:

$$C_{0,oil} = \frac{H}{P_i^{sat} MW_{oil}} C_L \quad (8)$$

The fraction emitted, f_e , and fraction remaining in the wastewater stream, f_r , are given by the following:

$$f_e = \frac{E}{C_{0,oil} F_{oil} \rho_{oil} + C_0 F} \quad f_r = \frac{C_0 F}{C_{0,oil} F_{oil} \rho_{oil} + C_0 F} \quad (9)$$

Blanketed Tanks (BTANK). For covered tanks with a blanketing gas or off-gas control system, an approach similar to that for open-top tanks is used, except that the gas-phase concentration above the air-water interface cannot be assumed to be zero and must be explicitly included in the model. The emission rate is given by:

$$E = K_{OL} A \left[C_L - \frac{C_G}{H} \right] + Q_{air} H C_L \quad (10)$$

If C_L and C_G are known, these values can be used directly in eq. (10) to get the total emissions. If not, a mass balance on the vapor space in the covered tank must be used to calculate C_G . Assuming complete mixing in the vapor, C_G is given by:

$$C_G = \frac{K_{OL} A + H Q_{air}}{F_{gas} + \frac{K_{OL} A}{H}} C_L \quad (11)$$

where F_{gas} is the total gas volumetric flow rate through the vapor space in the tank, including air flow from submerged aeration. If C_L is not known, it must be obtained from the inlet liquid concentration, C_0 , as was done for open tanks in eq. (4):

$$C_L = \frac{F C_0}{K_{OL} A \left[\frac{F_{gas} - Q_{air}}{F_{gas} + \frac{K_{OL} A}{H}} \right] + Q_{air} H + k_1 C_b V + F} \quad (12)$$

For mass transfer coefficients, values applicable to low- or no-wind conditions are necessary since the velocity of air across the air-liquid interface is relatively small compared to open systems. Still-air values of K_L and K_G from the literature [3] are 0.012 ft/h and 12 ft/h, respectively. For quiescent covered tanks, these still-air values for both K_G and K_L would be used. For tanks with a high degree of liquid mixing, a turbulent mass transfer correlation for K_L [1, Table 4-6] is used.

Combining eqs. (10) through (12), the fraction emitted, f_e , is given by the following:

$$f_e = \frac{K_{OL} A \left[\frac{F_{gas} - Q_{air}}{F_{gas} + \frac{K_{OL} A}{H}} \right] + Q_{air} H}{K_{OL} A \left[\frac{F_{gas} - Q_{air}}{F_{gas} + \frac{K_{OL} A}{H}} \right] + Q_{air} H + k_1 C_b V + F} \quad (13)$$

Oil-Covered Blanketed Tanks (OCBT). For covered tanks with a blanketing gas and an oil layer on the surface, eq. (6) is modified to include the gas-phase concentration in the driving force:

$$E = \frac{K_G A P_i^{sat} MW_{oil}}{RT} (C_{oil} - C_{oil}^*) \quad (14)$$

C_{oil}^* in eq. (14) is the oil-phase mass fraction that would be in equilibrium with the bulk gas-phase concentration, C_G . Using a mass balance around the gas phase, C_{oil}^* can be computed from C_{oil} :

$$C_{oil}^* = \frac{K_G A C_{oil}}{K_G A + F_{gas}} \quad (15)$$

If C_{oil} is not known, it can be estimated from the concentration in the incoming oil, assuming a well-mixed oil phase:

$$C_{oil} = \frac{C_{0,oil} F_{oil} \rho_{oil}}{F_{oil} \rho_{oil} + \frac{K_G A P_i^{sat} MW_{oil}}{RT} \left[\frac{F_{gas}}{K_G A + F_{gas}} \right]} \quad (16)$$

The still-air value for K_G [3] is used in eqs. (14) - (16). If $C_{0,oil}$ is not known, it can be determined from the water concentration using eq. (8). The fraction emitted and the fraction remaining in the wastewater stream are determined using eq. (9).

Weirs (WEIR). For weirs, use of eq. (1) directly is not practical because of the difficulty in estimating the interfacial area and the mass transfer coefficients. However, emissions can be estimated using correlations developed from oxygen transport studies with weirs and cascades [4]. These correlations allow prediction of the oxygen deficit ratio, r_o , as a function of weir characteristics such as fall height. The oxygen deficit ratio is defined as the ratio of the oxygen deficit (driving force) upstream of the weir to that downstream of the weir:

$$r_o = \frac{(C_s - C_{up})}{(C_s - C_{down})} \quad (17)$$

where C_s is the air-saturated dissolved oxygen concentration, and C_{up} and C_{down} are the dissolved oxygen concentrations upstream and downstream of the weir, respectively. One such correlation, developed by Nakasone [4], allows calculation of r_o as a function of water temperature, t ($^{\circ}C$), fall height, h (feet), water flow over the weir, F (gpm), weir width, w (feet), and the effective receiving water depth, D (feet). The effective receiving water depth is either the depth of the receiving water channel or $2/3$ of the fall height, whichever is less. By applying previously developed relationships between VOC stripping and oxygen transfer [5,6], the upstream and downstream VOC concentrations can be related by modifying the Nakasone equation [4]:

$$\ln(r) = \ln \left(\frac{C_0 - \frac{C_G}{H}}{C_L - \frac{C_G}{H}} \right) = \left[1 + 0.0168(t - 20^{\circ}C) \right] \left(\frac{D_L}{D_{O_2}} \right)^{2/3} B h^a \left(\frac{F}{w} \right)^b D^{0.31} \quad (18)$$

where r is the deficit ratio, C_0 and C_L are the VOC concentrations in the water upstream and downstream of the weir, respectively, and D_L and D_{O_2} are the diffusivities of the VOC and oxygen in water, respectively. For open-air systems, C_G is negligible, and the deficit ratio, r , is just C_0/C_L . B , a , and b are empirical constants which are valid over specified ranges of h and F/w as follows [4]:

h	F/w	B	a	b
≤ 3.9 ft	≤ 315 gpm/ft	0.0101	1.31	0.428
> 3.9 ft	≤ 315 gpm/ft	0.0199	0.816	0.428
≤ 3.9 ft	> 315 gpm/ft	0.875	1.31	-0.363
> 3.9 ft	> 315 gpm/ft	1.73	0.816	-0.363

It should be noted that oxygen transport is controlled by the liquid phase resistance only and any emissions estimate based on eq. (18) will be valid only for those chemicals for which the gas phase resistance, $1/(H' K_G)$, is negligible. Thus, eq. (18) would be valid for chemicals with a high Henry's Law constant, $H > 10^{-3}$ atm-m³/mole. For compounds with a lower value for H , both gas and liquid phase resistances would be important, and the deficit ratio, r , of eq. (18) must be corrected to include both the gas and liquid phase resistances:

$$r' = 1 + \left[\frac{H' r}{H' + \frac{K_L}{K_G}} \right] (r - 1) \quad (19)$$

where r' is the corrected deficit ratio. For weirs or cascades, a typical value for the ratio of liquid to gas mass transfer coefficients, K_L/K_G , is 0.005 [7].

To estimate emissions, the downstream concentration is calculated from the upstream concentration using eqs. (18) and (19). The emission rate and fraction emitted are then calculated using the difference in the concentrations:

$$E = F(C_0 - C_L) = F C_0 \left[\frac{r' - 1}{r'} \right] \quad t_e = \left[\frac{r' - 1}{r'} \right] \quad (20)$$

Blanketed Weirs (BWEIR). For weirs enclosed in a confined space, the gas concentration would not be negligible and must be included in the emissions calculation. If we assume that the enclosed vapor space is completely mixed, then a mass balance gives:

$$C_G = \frac{F}{F_{gas}} (C_0 - C_L) \quad (21)$$

Substituting for C_G in the definition of the (corrected) deficit ratio, r' , and rearranging yields the following expressions for C_L and C_G as a function of C_0 :

$$C_L = \frac{C_0 \left[\frac{F}{H' F_{gas}} (r' - 1) + 1 \right]}{r' + \frac{F}{H' F_{gas}} (r' - 1)} \quad C_G = \frac{C_0 \frac{F}{F_{gas}} (r' - 1)}{r' + \frac{F}{H' F_{gas}} (r' - 1)} \quad (22)$$

The emission rate is then given by:

$$E = F_{\text{gas}} C_G = F C_0 \frac{r' - 1}{r' + \frac{F}{H' F_{\text{gas}}} (r' - 1)} \quad t_e = \frac{r' - 1}{r' + \frac{F}{H' F_{\text{gas}}} (r' - 1)} \quad (23)$$

Pipe Outfalls into Aeration Basins (NWEIR). For lack of other methods of calculation, emissions from water falling from a pipe opening onto a liquid surface are calculated using the weir models as discussed above, with the pipe diameter used in place of the weir width. In the case of an aeration basin feed pipe, however, this approach is not valid. This is because the principal mechanism for emissions at weirs is the mass transfer of the volatile chemical to entrained air bubbles in the receiving water channel. Nakasone [4] suggested that entrained air bubbles are responsible for more than 95% of the mass transfer at weirs. Thus, the emissions from the weir is highly dependent on the concentration of the volatile compound in the receiving water channel. In the development of the weir equations, emissions to the air was the only fate mechanism included. In an aeration basin, the concentration is often quite low due to biodegradation. Thus, the emissions would be expected to be significantly lower than for the case of a weir discharging into a receiving water with no biodegradation. For the case of a weir discharging into an aeration basin, therefore, only the emissions from the surface of the falling jet are considered, and these represent less than 5% of the emissions calculated using the weir equations. Using 5% as a conservative value for the proportion of emissions from the falling jet, the emissions from a pipe outfall into an aeration basin is:

$$E = 0.05 \cdot F C_0 \left[\frac{r' - 1}{r'} \right] \quad t_e = 0.05 \cdot \left[\frac{r' - 1}{r'} \right] \quad (24)$$

Trickling Filter (TF). A mass balance incorporating eq. (1) is applied to a differential volume for both the liquid and gas phases to develop differential equations for a trickling filter. The area for mass transfer is the surface area of the trickling filter media. Biodegradation takes place in the biofilm attached to the media. For the liquid phase, the mass balance gives:

$$F \frac{dC_L}{dz} = -K_{OL} a_s A \left[C_L - \frac{C_G}{H'} \right] - f h a_s A q_m C_b C_L \quad (25)$$

where z is the axial distance along the trickling filter with $z = 0$ at the top, a_s is the surface area per unit volume of the trickling filter media, A is the cross sectional area of the trickling filter, f is an effectiveness factor proportionality constant, h is the thickness of the biofilm on the media, q_m is the zero order biodegradation rate constant for the compound of interest, and C_b is the biomass concentration in the biofilm. The biodegradation term in eq. (25) was developed using an effectiveness factor concept [8,9] which takes into account the effect of diffusional resistances on biodegradation in the biofilm. Previous studies [8,9] with trickling filters have shown that the effectiveness factor is proportional to the substrate concentration, so C_L is included as part of the biodegradation term even though zero order kinetics are assumed. Zero order kinetics are appropriate for the model since the biomass is exposed to relatively high substrate concentrations in a trickling filter compared to a completely-mixed activated sludge system [9].

For the gas phase, a mass balance gives:

$$Q_{air} \frac{dC_G}{dz} = -K_{OL} a_s A \left[C_L - \frac{C_G}{H} \right] \quad (26)$$

where Q_{air} is the air flow rate up through the trickling filter. All of the other terms are identical to those of eq. (25). The air entering the trickling filter at the bottom is assumed to be free of VOC's, so the boundary conditions for eqs. (25) and (26) are as follows:

$$\text{at } z = 0, C_L = C_0; \quad \text{at } z = L, C_G = 0 \quad (27)$$

where C_0 is the VOC concentration in the feed to the trickling filter, and L is the depth of the trickling filter. Equations (25), (26), and (27) are a system of linear, ordinary differential equations which can be solved analytically. Details of the solution are not included in this report for sake of brevity. From the solution, the exit gas concentration (C_G at $z = 0$) can be computed and used to calculate total emissions from the trickling filter:

$$E = Q_{air} C_G \quad (28)$$

Q_{air} in eqs. (25) and (26) is estimated by solving for air velocity within the trickling filter after equating the pressure driving force in the trickling filter with the pressure drop due to friction [8]. The driving force is caused by the temperature-induced density difference between the ambient air and the air inside the trickling filter. For the pressure drop, one of several available correlations for pressure drop through packed towers was used [10, p. 200]. K_{OL} was estimated using correlations for K_L and K_G for packed towers [1, pp. 18-33 and 18-36]. f was taken from a range of values reported in the literature for trickling filters [8]. Values typical for most trickling filters were used for a_s , h , and C_b [9].

Open Trenches or Flumes (CHAN). The model used to estimate emissions from open trenches was based on a model from the Industrial Wastewater VOC Emissions Background Document [2, section B.3.12]. The flow through the trench is assumed to be plug flow and eq. (1) is applied to a differential control volume to give the following differential equation:

$$\frac{dC_L}{dz} = \frac{-K_{OL} C_L}{Dv} \quad (29)$$

z is the distance along the length of the trench, D is the depth of the water in the trench, and v is the velocity of the water. Integrating over the length of the trench, L , gives the following expression for the fraction emitted:

$$f_e = 1 - \exp\left(\frac{-K_{OL} L}{Dv}\right) \quad (30)$$

K_G is estimated using the correlation for quiescent conditions [1, Table 4-1], and K_L is estimated according to the method of Owens et al. [12]:

$$K_L \text{ (ft/h)} = 0.90 \cdot \left(\frac{D_L}{D_{O_2}}\right)^{2/3} \frac{v^{2/3}}{D^{0.85}} \quad (31)$$

v in eq. (31) is the velocity in ft/s and D is the water depth in feet.

Constant-Level Fixed-Roof Tanks with a Hydrocarbon Phase (OCFRT). For fixed-roof tanks vented to the atmosphere and no blanketing gas, an updated API model [13] for storage (breathing) losses similar to that found in the TSDf document [1, sections 7.5 and 7.6] is used. For tanks with a constant liquid level (e.g. treatment tanks on level control), only storage losses need be considered. Daily storage losses for fixed-roof tanks are calculated from the following equation, which considers vapor-space expansion caused by the daily heating cycle as the major driving force for losses:

$$\text{total daily loss} = V_V C_g^* K_E K_S \quad (32)$$

where V_V is the vapor space volume in the tank and C_g^* is the vapor density or concentration in equilibrium with the liquid. K_E is the vapor space expansion factor and K_S is the vented vapor saturation factor. K_E is a function of the daily temperature range, the total vapor pressure of the liquid in the tank, and the breather vent pressure setting. K_S is a function of the total vapor pressure of the liquid and the height of the vapor space in the tank. Formulas for calculation of K_E and K_S are detailed in the API model document [13]. The annual emission rate is determined by multiplying the daily emission rate [eq. (32)] by 365.

Eq. (32) was developed for calculation of total VOC emissions from tanks containing a volatile organic liquid. In this case, C_g^* is the total vapor density and is given by:

$$C_g^* = \frac{MW_V P_t^{\text{sat}}}{RT} \quad (33)$$

P_t^{sat} is the total vapor pressure of the liquid, MW_V is the average molecular weight of the vapor in equilibrium with the liquid, R is the gas constant, and T is the absolute temperature of the liquid. If compound-specific emission rates are desired, C_g^* is the equilibrium concentration for the component of interest. For tanks with an organic liquid phase on the surface (e.g. slop oil tanks), this is given by:

$$C_g^* = \frac{P_i^{\text{sat}} MW_{\text{oil}}}{RT} C_{\text{oil}} \quad (34)$$

P_i^{sat} is the vapor pressure of the compound of interest, MW_{oil} is the average molecular weight of the organic liquid in the tank, and C_{oil} is the mass fraction of the compound of interest in the organic liquid. Eq. (34) is based on Raoult's Law which assumes an ideal mixture. This is a reasonable assumption for mixtures of hydrocarbons (e.g. slop oil). Thus, for tanks containing hydrocarbon or with a hydrocarbon layer on top, the annual emissions are given by:

$$E = 365 \cdot V_V \frac{P_i^{\text{sat}} MW_{\text{oil}}}{RT} C_{\text{oil}} K_E K_S \quad (35)$$

The total vapor pressure of the liquid is still required for calculation of the parameters K_E and K_S in eqs. (32) and (35). If the total vapor pressure of the liquid as a function of temperature is not known, this can be estimated using correlations in the API model document [13]. For slop oil, the Reid vapor pressure (RVP) of the slop oil can be used with the correlation for crude oil stocks to calculate coefficients of the vapor pressure-temperature relationship. Alternatively, if the ASTM D-86 distillation slope for the slop oil is available, this can be used along with the RVP to get a better

estimate of the vapor pressure-temperature relationship coefficients. Details can be found in the API model document [13].

Constant-Level Fixed-Roof Tanks with No Hydrocarbon Phase (FRTANK). For tanks containing water with no hydrocarbon layer on top, the model was modified to use Henry's Law instead of Raoult's Law for calculation of C_g^* :

$$C_g^* = H C_L \quad (36)$$

For most wastewater streams, the concentration of volatile compounds is typically low enough that the contribution to the total vapor pressure is minimal and the vapor pressure of water can be used as the total vapor pressure for calculation of K_E and K_S . If the VOC concentrations are high enough to exert a significant partial pressure, then the partial pressures can be determined using Henry's Law and added to the vapor pressure of water to get the total vapor pressure. With these considerations, the annual storage loss from a fixed-roof tank containing water with no hydrocarbon layer is:

$$E = 365 \cdot V_V H C_L K_E K_S \quad (37)$$

Batched Fixed-Roof Tanks with Hydrocarbon Phase (BOCFRT). For fixed-roof tanks used in batch or semi-continuous mode in which the level varies, the working losses must be included in addition to storage losses. Annual working losses for fixed-roof tanks are calculated from the following equation, which considers displaced vapor caused by changes in liquid level as the major loss mechanism [13]:

$$E = C_g^* N V K_N K_P \quad (38)$$

C_g^* is the vapor phase concentration or density in equilibrium with the liquid. For estimation of compound-specific emissions, C_g^* can be calculated from eq. (34) for a tank with an organic phase on the surface. N is the number of tank turnovers per year and is based on the total flow into the tank resulting in a liquid level change. V is the total volume capacity of the tank, K_N is the working loss turnover factor, and K_P is the working loss product factor. K_N is a function only of the number of turnovers, N , and a formula for its calculation can be found in the API model document [13]. K_P is a function of the type of material in the tank and is equal to 0.75 for crude oil stocks and 1.00 for refined petroleum stocks or single-component petrochemical stocks. For slop oil, a value of 0.75 was used. Combining eq. (34) with eq. (38) gives the working loss equation for tanks containing hydrocarbon or with a hydrocarbon layer on the liquid surface:

$$E = \frac{P_i^{sat} MW_{oil}}{RT} C_{oil} N V K_N K_P \quad (39)$$

Total emissions can be obtained by summing the storage and working losses [eqs. (35) and (39)]:

$$E = \frac{P_i^{sat} MW_{oil}}{RT} C_{oil} (365 \cdot V_V K_E K_S + N V K_N K_P) \quad (40)$$

Batched Fixed-Roof Tanks with No Hydrocarbon Phase (BFRTANK). For a tank containing water with no organic phase on the surface, working losses are determined using eq. (38) with C_G^* calculated from eq. (36). N , V , and K_N are determined as for fixed-roof tanks containing a hydrocarbon phase. For K_D , a value of 1.00 was used for tanks containing only water. Thus, the equation for working losses is:

$$E = H^* C_L N V K_N \quad (41)$$

Total losses are the sum of eqs. (37) and (41):

$$E = H^* C_L (365 \cdot V_V K_E K_S + N V K_N) \quad (42)$$

Input Variables and Parameters

Table 1 shows the required equipment, process, and environmental data required for the various models. In some cases, average or approximate values for the required input parameter can be estimated by the model program or can optionally be supplied by the user.

Physical and chemical properties required by the model for each volatile chemical of interest are the molecular weight, vapor pressure, Antoine equation (vapor pressure/temperature relationship) coefficients, Henry's Law constant, diffusivity in water, diffusivity in air, and biodegradation rate constants. The biodegradation rate constants can either be Monod constants or a first-order rate constant. The vapor pressure and Henry's Law constant must be for the actual process temperature and are calculated from the associated values at 25 °C. For vapor pressure, this is done using the Antoine equation directly. For the Henry's Law constant, the value for H at 25 °C is corrected using the ratio of the vapor pressure at the actual process temperature to that at 25 °C. This is only an approximate correction, as the effect of temperature on the activity coefficient (or solubility) must also be considered when correcting the Henry's Law constant. Over small temperature ranges such as seen in wastewater treatment systems, however, the effect of temperature on the activity coefficient is usually quite small when compared to the effect on vapor pressure and can usually be ignored [14, p. 308].

The required physical and chemical properties are contained in a compound database and were obtained from the TSDf document [1, Appendix D]. Additional chemicals can be added to the database as the need arises. If values for particular properties for a chemical are not available, they can be estimated using various procedures outlined in the literature [6, 14-16]. Caution should be used when using biodegradation rate constants from a database as these constants are often not representative of biodegradation rates that have been observed for full-scale refinery and chemical plant biotreaters [17]. More appropriate biodegradation rate constants have been included in the database for several chemicals and additional biodegradation constants will be included as they become available.

Model Implementation

Generic Model Spreadsheet. The emissions models are implemented in a Lotus 123 worksheet. All of the input data, parameters, and model equations for a particular process unit are incorporated into a single column in the spreadsheet. For each of the 13 process unit categories, two different versions of the model are available: one version takes influent concentration data and predicts the

emissions and effluent concentration; the second version takes effluent concentration data as input and estimates the emissions and influent concentration. In this way, the models can make use of whatever concentration data are available. Thus, all of the emissions model equations are contained in a spreadsheet containing 26 columns for data and calculations (two columns for each of the 13 process unit categories) plus 13 columns for associated labels. Also contained in the spreadsheet is the compound database in the form of a table, with each row of the table containing the required properties for a particular chemical. A particular chemical is selected by entering the compound number (as shown in the database table) into the designated cell in the upper left corner of the spreadsheet. This generic spreadsheet can be used to estimate the emissions from any particular process unit in an effluent treatment system simply by selecting the appropriate process unit category and then supplying the required input parameters in the associated column for the spreadsheet.

Site-Specific Model Spreadsheet. A site-specific spreadsheet incorporating the model equations and input parameters for all of the units of a specific treatment system can be constructed from the generic spreadsheet. The appropriate model is selected for each unit in the treatment system and the associated column from the generic spreadsheet is copied to the site-specific spreadsheet. The columns with the process models are placed in order in the spreadsheet corresponding to the treatment process flow scheme, starting with the first process in the treatment train in the first column. The required equipment, process, and environmental parameters are entered into the associated cells of each column. The cells containing the input component concentrations are set up to correspond to the available data. For example, if neither influent nor effluent concentration data are available for a particular unit, the effluent concentration from the next process upstream is used as the influent concentration for that unit. For units where the influent or effluent concentration data are available, the data can be input directly into the column associated with that unit, or the input concentration cell can be linked to another section of the spreadsheet containing the input concentration data. Depending on the particular needs of the user, the spreadsheet can be tailored to include macro procedures for automating the calculations for a list of compounds and input concentration data, and for generating reports.

Notation Used

Symbol	Definition (units: M = mass; L = length; F = force; Θ = time; T = temperature)
ρ_{oil}	density of oil/hydrocarbon phase (M/L^3)
A	interfacial or surface area (L^2)
a	empirical coefficient in Nakasone [4] oxygen deficit correlation (dimensionless)
a_s	specific surface area of trickling filter packing ($1/L$)
B	empirical coefficient in Nakasone [4] oxygen deficit correlation (dimensionless)
b	empirical coefficient in Nakasone [4] oxygen deficit correlation (dimensionless)
C^*_{oil}	mass fraction in oil phase in equilibrium with gas phase concentration (M/M)
C_0	influent aqueous concentration (M/L^3)
$C_{0,oil}$	influent mass fraction in oil phase (M/M)
C_b	biomass concentration (M/L^3)
C_{down}	dissolved oxygen concentration downstream of weir (M/L^3)
C^*_G	vapor phase concentration of component in equilibrium with liquid (M/L^3)
C_G	mass concentration in gas phase (M/L^3)
C_L	aqueous phase concentration in tank, basin, or downstream of weir (M/L^3)
C_{oil}	mass fraction of component in oil/hydrocarbon phase (M/M)
C_s	air-saturated aqueous dissolved oxygen concentration (M/L^3)

C_{up}	dissolved oxygen concentration upstream of weir (M/L ³)
D	effective receiving water depth for weirs or depth of water in open channel (L)
D_i	binary diffusion coefficient of component i in water (L ² /θ)
D_{O_2}	binary diffusion coefficient of oxygen in water (L ² /θ)
E	emission rate (M/θ)
F	volumetric wastewater flow rate (L ³ /θ)
F_{gas}	total volumetric flow of gas through vapor space of covered tank (L ³ /θ)
F_{oil}	volumetric flow rate of oil/hydrocarbon (L ³ /θ)
f	empirical effectiveness factor proportionality constant (dimensionless)
f_e	fraction of compound emitted (dimensionless)
f_r	fraction of compound remaining in wastewater stream (dimensionless)
H	Henry's Law constant (F L/mole)
H'	air/water equilibrium partition coefficient = H/RT (dimensionless)
h	weir fall height (L)
h	trickling filter biofilm thickness (L)
K_G	gas-phase mass transfer coefficient (L/θ)
K_L	liquid-phase mass transfer coefficient (L/θ)
K_E	vapor space expansion factor for fixed-roof storage loss (1/day)
K_{OL}	overall mass transfer coefficient for liquid concentration (L/θ)
K_N	working loss turnover factor (dimensionless)
K_P	working loss product factor (dimensionless)
K_S	vented vapor saturation factor for fixed-roof storage loss (dimensionless)
k_1	1st order biodegradation rate constant (L ³ M/θ)
L	depth of trickling filter (L)
MW_{oil}	average molecular weight of oil/hydrocarbon phase (M/mole)
N	annual number of tank turnovers (1/year)
p_i^{sat}	vapor pressure of component i at liquid temperature (F/L ²)
Q_{air}	submerged air flow rate (L ³ /θ)
q_m	zero-order biodegradation rate constant for compound of interest (1/θ)
R	universal gas constant (F L / mole T)
r	VOC deficit ratio (dimensionless)
r'	corrected VOC deficit ratio (dimensionless)
r_o	oxygen deficit ratio (dimensionless)
T	absolute temperature (T)
t	temperature (°C or °F as specified)
V	volume in tank or basin (L ³)
V_v	volume of vapor space in fixed-roof tank (L ³)
v	velocity of water in open channel (L/θ)
w	weir width (L)
z	axial distance along trickling filter or distance along open channel (L)

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